

>SGPR397_SEQID_1
 ATGAAGTGTCTCGGGAAGCGCAGGGCCAGGCGCTGCTTTCTGCCTCTTTGCTGGCTCTTTTGAAGATTCT
 GCAACCGGGCAGACGCCACCTTTATAACAACCGCTATGCTGTGATAAGTGATAAGATTATTTCCCAAAACAGA
 AGAGGAAGCATATGCACCTGAAGAAAATATCCTATCAACTTAAGTGGACCTGTGGCAGCCCGCAGTATCTCCTA
 TGTATCAGAGGGAACAGTTACTGATGTCATATCCCCAAAATGGTTCCCGAGCCCTGTTAGCCTTCTTACAGGA
 AGCCAACATCCAGTACAAGTCCCTCATAGAAGATCTTCAGAAAACACTGGAGAAGGGAAGCAGCTTGCACACCC
 AGAGAAACCGAAGATCCCTCTCTGGATATAATTAAGAATTTACTCTCTTGAAGATCATATGAGGAATTCAAAATTGGATGCA
 TCATCTGAATAAAACTCACTCAGGCTCATTCACATGTTCTCTATTGGAAGATCATATGAGGGAAGATGCTTTTTT
 ATTTAAAGCTGGGCAGACGATCAGACTCAAAAGAGCTGTTGGATAGACTGTGTAATTCATGCAAGAGAAATGG
 ATTGGTCTCGCCTTTTGTCAGTGGTTGTAAAGAAGCTCTTCTAACATATAAGAGTGACCCAGCCATGAGAAAA
 TGCTGAATCATCTATATTTCTATATCATGCTGTGTTAACGTCGATGATACCATTTTAGTTGGACCAATGATCGA
 TTTTGGAGAAAAACAAGTCAAGGAACCTCAAGTTTCGCTGCCGTGGAGTGATGCCAATAGAAACTGGAAGT
 GAAGTGGTGTGTAAGTTTGGACCAACTGGGATCCAGATCCAAAGGTTTCTGCAGGTTTACTCTGCAAAATAT
 GAGTCCAGAGGACTCTCATGGGAGACTCATGTTTTTCTGTATGTGA

FIG. 1A

>SGPR413_SEQID_2
 ATGAAGCCTCTGCTTGAAACCCCTTTATCTTTGGGATGCTGGTTCCTGGAGGGCTGGATATGATAGATCCTTA
 GCCCAACACAGACAGAGATTGTGACAAGTCAGTGAGTCCATGGAGCCTGGAGACGTATTCCTATAACATATAC
 CACCCCATGGGAGAGATCTATGAGTGGATGAGAGAGATCAGTGAGAAGTACAAGGAAGTGGTGACACAGCATTT
 CCTAGGAGTGACCTATGAGACCCACCCCATGTATTATCTGAAGATCAGCCAAACCATCTGGTAATCCCAAGAAAT
 CATTGGATGGACTGTGGAATTCACGCCAGAGAATGGATTGCTCCTGCTTTTGCCAAATGGTTGTCGTCAAAGAAAT
 TCTACAAACCATAAAGACAACCTCAAGTATACGCAAGCTCCTTAGGAACCTGGACTTCTATGTCTTCCAGTTCTT
 AACATAGATGTTATATCTACACTTGGACAACCTGATCGTCTTTGGAGGAAATCCCGTTCACCCCATATAATGGCA
 CATGTTTTGGGACGGATCTCAATCGAAATTTCAATGCATCTTGGTGTAGTATTGGTGCTCTAGAACTGCCAAGA
 TCAAAACATTCTGTGGACAGGGCCAGTGTCTGAACCCAGAGACTAAAGCTGTTGCCAGCTTCATAGAGAGCAAGA
 AGGATGATATTTGTGCTTCTGACCATGCACCTTATGGGCAGTTAATTCACACCTTACGGCTACACCAAAA
 TAAATCAAGTAACCAACCCAGAAATGATTCAAGTTGACAGAAAGCAGCAAAATGCATTGAAAGCAAGTATGGAAC
 CAATTATAGAGTTGGATCGAGTGCAGATATTTTATATGCCTCATCAGGGTCTTCAAGAGATTGGCCCGAGACAT
 TGGGATCCCTTCTCATATACGTTTGAGCTGAGGGACAGTGAACATATGGTTTGTCTGCCAGAAGCTCAGAT
 CCAGCCACCTGTGAGGAGACCATGGAGGCTGTGCTGTCAGTCTGATGATGTATGCGAAACACTGGCAGT
 CGGACAGTGTGGAAGGTGACATCTGCCACTATGCTGCTGGCCCTGCTGGTGTCTGCTGCTGCTCTTCTCTAA

TGAGGGCAATTCGCTACCGCCTGGGCACCATCCGCCCATCTTCCTCGGTCATGAACATGCATGAAATTTATACAGT
 GCTGAACCCAGGGAGGTGCTTCCACACAGCCTTCGAGGCCCTCTGAGAACTGAGCAAGTGGCCCAACCTGATTCATGAGCCT
 CTTGACCAAGGCAACTGTGCAGGCTCCTGGCCCTTCTCCACAGCAGCTGTGGCATCCGATCGTGTCTCAATCCA
 TTCTCTGGACACATGACGCCCTGTCTGTGCCCCAGAACCTGTCTTGTGACACCCACAGCAGCAGGGCT
 GCCGCGTGGCGTCTCGATGTGTGCTGCTGCTGCTGCGCCGAGGGTGTGTCTGACCACTGCTACC
 CCTTCTCGGCCGTGAACGAGACGAGGCTGGCCCTGCGCCCTGTATGATGCACAGCCGAGCCATGGGTG
 GGCAAGCGCCAGCCACTGCCACTGCCCAACAGCTATGTTAATAACAATGACATCTACCAGTCACTCCTG
 TCTACCGCCTCGGCTCCAACGACAGGAGATCATGAAGAGCTGATGGAGAAATGGCCCTGTCCAAGCCCTCATG
 GAGGTGCATGAGGACTTCTTCCCTATACAAGGAGGAGCATCTACAGCCACACGCCAGTGAGCCTTGGAGGCCAG
 AGAGATACCGCCGCATGGACCCCACTCAGTCAAGATCACAGGATGGGAGAGGAGACGCTGCCAGATGGAAG
 GACGCTCAATACTGACTCGGCCAACTCCTGGGCCAGCCTGGGGCGAGAGGGCCACTTCCGCATCGT
 GCGCGCGTCAATGAGTGCAGACATCGAGAGCTTCGTGCTGGCGCTCTGGGCCGCGTGGCATGGAGGACAT
 GGGTCATCACTGA

FIG. 1C

>SGPR414_SEQID_5
 ATGTGCGAGAACTGCGCAGACCTGGTGGAGGTGTTAATGAATATCAGATGTAGAAGTGGTGATGGACTGCA
 GCTCAGAAAGGAACATACTCTCAAAATATTTACTTACATCAATTCCTGGACACAGAGGCAATGTCTATGCTGCTTC
 AAGGAATAAAGCAATTTGGAGATTTTAAATCAAGTAGTGTGTCACCTATTAACTTAGTATTGCCAAGTTCAAGT
 GCTCCGGACCACTTTGTAAACATTGTACTACCATTAACTAGATTTCCACGTGGCAAGATGAGAGTAATCAAGC
 AGAAGAACCACCTGAATATAGATAGAGAGTGAATGAAGGAAGTACAGAAAGACAAAATCAATAGAAAATAATCA
 AACTCTACAAGAAATTTGTAATCTGACTGAGGAGGAATCTTCAAAGAGTTCTGATCCTTTTAGTTTATGGAGTACAG
 ATGAGAAGGAAAACTCTTACTATGTGTGGCAAAATTTTCAAATTCAGTTTCCCTTATATACTGCTTACAAGCAT
 AATACTACCCCTACTATTGAGGATATATCAACTCAAGAAAGTAACATATTAGGGGCATTCTGTGATATGAATGATG
 TAGAAGTACCATTGCAATTTGCTTCGTTATGTATGTTTGTGGGAAAATGGCCCTTCTCTCATGAAGGATTG
 CTTTGAATATGGAACCTCCTGAAACTTTGCCATTTCTTATAGCACATGCGTTTATTACAGTTGTGCTAATATTAGAA
 TATGGCTACATATCCCGCTGTCATGCAGCACATTATACCTTTAGGACCTATGTTATTAGGTATTTATGCAAGCT
 CTCGGATCAGGAGTTACGACAGAGTGCAGCTCGTAACATGGCTGACTTAATGTGGAGCACAGTCAAGAACCAT
 TGGATACAACATTATGCTTTTGATAAAGAAAGCCTAGATCTTGCAATTAAGTACTTTATGTACCTACTTTGACTATG
 AGGTTGGCTGGATTGAGTCAGATAACAAATCAACTCCATACCTTCAATGATGTGTGCAATAATGAATCATTAGTAT
 CGGACACAGAAACGTCATTGCAAAAGAACTTGCAGACTGGCTTATTAGCAACAATGTGGTGGAGCATATATTG
 GACCAAATTTACATATTGAGATTATCAAAACAGTGCCCAAGTGATTTTGAATTTTGGCAGCAGAGGCGCACTGAG
 TACTCAACATATTGACTGTATTTGGGCTGCAGCACAGTTGAAACATTTGTAGTCGGTATATACATGACTTATTCCTT

FIG. 1D

CACTCATCAAGAAATTTGGATCCCGTACCACCTTAGACATCTACTTAATCTGGTCTCAGCTCTTGAGCCAAAGTGTTCAT
TACTGAACAGACACTGTACTTGGCATCCATGTTAATTAAGCAGCTGTGGAATAACGCACCTAGCAGCTAAGGCTCA
GTTATCTAAACAGAGTCTTTTGCATCTTTAATAATACTAATAATCCCATTTGGAATAAGAAAGAGGAAGAGAGC
TTAGAAGAACAGCTCCATCACCTTGGTCACCTGAGCACTTATTAATAGAACCAACATGTGCAACACGACTTTCAGACA
GTGGAGGTAGTGACATTGAAATGGATGAGCACTTACGAACTGCCAACAGTGGTGAAGATGGAAGCAGTGGTCTCGTAG
CAGAGGAATCCATGCAGGAAGTTCTGACGAACTGCCAACAGTGGTGAAGATGGAAGCAGTGGGAGCCCTG
CAGTAGTGGCATAAGTGTAGTATGCAATGAGTTAATTTAGCCACGCAAGCCAGTGAAGCAGTGAATCATGTT
GCAGTGAGGTACAGTCAGAAGACATTGCAGATATTGAAGCCCTCAAGAGGAAGATGAAGCAGTGAATTCGCTG
CATAATCCTCCCAAGCAGTTGTGTACAGATCTTCGGAATAGAAAGTTAGAGAGTCAAGCAGGCAATTTGCCTG
GGGACTCCCAAGCAGTCAGAAAGAAATGGGACAAGCAGCGGAACAGGAAGGACCTGGTTTTAACACTG
AATCATTGCCATCAGTAGATAATCGAATGCGAATGCTGGATGCTTGTTCACACTCTGAAGACCCAGAACATGATAT
TTCAGGGGAAATGAATGCTACTCATATAGCACAAAGGCTCAGGAGTCTTGATCACACGAACTGGGACTTCT
TGGGAGACTATTGGGAATGAATTTAATTTGTCGACAATTTATTGGTCCACAGCATCACCAACCCACCA
CCATCACCAACCAAGTGGCATAATGTTGATGATATGCTAAGTGCAGATGATGTCAGTTGTAGTAGTCCCA
GGTTAGTGCAAAATCAGAAATAATGCTGATTTGATGTGGAAGATCTGGATGTGAAGAGGAGCTAGTTCA
GATTAATTCACATGCGGAACCTGACATCTCACCTCCAACACATCTTCCCAATTTAGCTTCCATTTACCATGAACAT
CTTAGTCAAGGACCTGTAGTTTCATAAACATCAATCAACAGTAATGCTGTACAGACATTAATTTGGATAATGTTG
CAAGAAAGGAATACTTTGTGTGGGATATAGTCCAAAGATGAAGATGCAGTTAATCTTTCTGAAGGATTAATAAT
GAAGCAGAGAACTTCTTGTGTTAGTATGTTGTTACAGATAGACAAATTCGAATGAGATTCATTGAAGGTT
GCCTTGAAAACTTGGGAAACAACAGATCAGTAGTAATTTCACTTCGCTCTTCCAAACTATTTGGTACTTTTCAG
CAGTTTGGGAGCAGTTACGATACACACTGGATAACAATGTGGCAGAAAGAACTGAACATGATGAAGCTTTTC
TTTGATAATTTGGTACTACATTCAACTGTGAGAGAGGAAGACAAACATGCACGTACAGCCATAGTGCTG
AAGTTCAAGTTCGCTTCAATTCCTGACTTGTGTAATTTCAACTCTGGGATCACCTGATCATTTCAAGTTAAGTTA
GAGCAAGTTGACATCTTATGGCATTGTTTAGTAGAAGATTCTGAAATGTTATGATGATGCACCTCCATTGGTTTTAA
TCAAGTTCGAAGTAAGATCAACATGCTATGGTATGGATGGAACCTACAACATCTTTTCCCTGGAGAAGATGCCCA
GCTAAACCTGAACAAATTAGCATGACTGGCTTAACTGTTTCAGCATCTCTGTAACCTGGCTGATTGGCTACC
AGTGCCTATGATGGTTGTTCAAAATTCAGCTGTGTTGATGGACCAATTTGGGCAATTTGCTTTAAGAGCACAA
TCTGGTGTATGTAAGTGATGGAGAGTCTTATGATAGCTTCTAGCAGTCTTGAACAGGAATCACACTCAAG
AGCAAGATTTATAGAAAGAGGACTCCTTATGCTGAAGACACATCTGGAAGCCTTAGGAGAAAGTTTGCATATCA
TCTCATGGTTATAGAAAGAGGACTCCTTATGCTGAAGACACATCTGGAAGCCTTAGGAGAAAGTTTGCATATCA
TCTGAGACAGTGGCAAAATTGAAGGCACTGGTATTAGTAGTCAATTTGAAGCACTGAGTGACAAACAGTCTCTGCC
GCTAAGGGTTGATGCCAGCCAGCTGGACTTCCTGACAAGATGACTATTGAAATGTATCTCTAGTGACCAGGTAGC

AGATCTTAGGGCTGAAGTAACTCATTGGTATGAAAATTTACAGAAAGAACAAATAAATCAACAAGCTCAGCTTCAG
GAGTTGGTCAAAGCAACCGAAAGGAGAGTTTCTGGAGGCTCATGGACCTGTACAGATGATTTTCATCTGG
ACACGAGTTAACACAGATTATGATGAAAAGCACATTCATGAGCTTGGTTTAAAGGATATGCAGATGTTATTTGTA
TCTTTGGGTGCACCAAGGAGAGCGGAAAGGGAGGTGTTACAGCTGCCAGCATCTTGCCCTCCACCCCTC
AGAAGGACAACATTCGAATGCTTTTGTCTTTACAGAGCTCATTTAACTACTCTTTTGAATTTAGAGATGCTT
GCATCAATTAACCAACCTCAGGAAAAGTGGCAGTGGATGATAGTAGAGAGCTTACGATGTGAAGAACTTCATCTT
CATGCAGAAAATCTGTCTAGCGGGTCTGGAGCTACTGATGCTTCTCTACATGTCCTAAATATGTTGATGGCA
TTCCAGAAATATCTCAGATGAGCAGAGTTTAAAGCTCAGTCTGATCACAGGTCTAGACATGAAGTTTCACATTAT
CAATGTGGCTCTTGGTGAGTTGGCTCATTTGCTTTTAGTGAATCTAGCCTTGCTGATAGCGATCATTTACA
AGATTGGCTAAAGAAATTGACTCTCTTATTCCTGAGACTGCAGTTCGTCATGAATCATGCAGTGGTCTCTATAAG
TTATCCCTGTCAAGGCTGGATGGAGGAGACTCAATCAATCGTCTTTCTGCTATTTGGCTGCCTCAACATTATTGA
AATTCCTCTGATGCTCAAGCACTCAAACTATTAGGATAGATGATTATGAGGAAGAACCAATATTTAAACCCAGG
ATGTAAGAGTATTTTGGTTTATGCAAAATTAGTGACAACATACATATAAAGGACGCTAGTCAGACAACGCTC
CTCGACTTAGATGCCTTGGCAAGACATTTGGCTGACTGATTCGAAGTAGGGAGATCCTTGATCATCAGGATGGT
AATGTAGAAGATGATGGCTTACAGGACTCTAAGGCTTGCAACAAGTGTGTTAAACACAAACCCCTTTAAAT
TTTCAAGGGAAGGACAGGAATTTTGAGAGATATCTTCAATCTCCTGTTTTGTTGCCAAGTCTAAGGACCGACA
ACAGCCAAAGTGCAATCACATTTCTCAAGAGCTGCCGCTTACGATTTGTTAGTAGAGATGGTAAAGGGTCTGT
TGAGAACTACAGGCTAATACACAACTGGTTATGGCACACACATGCAGTCCCATGCACCTTATAAATGGGATTA
CTGGCCTCATGAAGATGTCGGTGAATGTAGATTTGTTGGCTTACTAACCTTGGAGCTACTTGTACTTAGCT
TCTACTATTCAAGCACTTTATATGATACCTGAGGCAAGACAGGCTGCTTCCACTGCCAAGTATTCAGAGGATATGA
AGCACAAAGACCACTCTTCTGGAGCTTCAGAAAATGTTTACATATTTAATGGAGAGTGAATGCAAGCATATAATCC
TAGACCTTTCTGTAAACATACACCATGGATAAGCAGCCTCTGAATACTGGGGAACAGAAAGATATGACAGAGTT
TTTTACTGATCTAATTACCAAAATCGAAGAAATGTCTCCGAACGTGAAATAACCGTCAAAAGTTTATTTGGAGGT
GTAATTACAACAATGTTGTATCCTTGGATTGTGAACATGTTAGTCAAACTGCTGAAGAGTTTATACTGTGAGGT
GCCAAGTGGCTGATATGAAGAACATTTATGAATCTCTTGTGAAGTTACTATAAAGACACTTTTGAAGGTGATAA
CATGTATACTTGTCTCAATGTGGGAAGAAAGTACGAGCTGAAAAGGGCATGTTTAAAGAAATGCTCCTCGCAT
TTNAGTTTCAATACTATGAGATACACATTTAATATGTTACGATGATGAAGAGAAAGTGAATACACACTTTTCCCT
CCCATACGTTTGGACATGACGCCCTATACAGAGATTTTCTTATGGGAAAGAGTGAGAGGAAAGAGGTTTTAA
AGAAGTCAGTGATCATTCAAAGACTCAGAGAGCTATGAATATGACTTGTAGGAGTGACTGTTACACAGGAAC
GGCAGATGGTGACACTATTATAGCTTTATCAGAGATATAGTAATCCCATGCTTATAAACAATAAATGGTAT
CTTTTAAATGATGCTGAGGTAAACCTTTTGAATCTGCTCAACTTGCATCTGAATGTTTTGGTGAGAGATGACGA
CCAAGACCTATGATTCTGTACAGATAAATTTATGGACTTCTCTTTTGAAAAGACACACAGTGCATATATGCTGTTT

FIG. 1E

FIG. 1F

TACAAACGCATGGAACCCAGAGGAAGAAATGGCAGAGAAATACAAATTTGATGTTTCGTCAGAGTTACTAGAGTGG
ATTTGGCATGATAACATGCAGTTTCTTCAAGACAAACAAATTTTGAACATACATATTTTGATTATGTGGCAATT
GTGTAGTTGATTTCCAGTACATTACCAGATCCTAAAGCTGTCTTAATGACAGCAAAAGTTAAGCACATTCCTTT
GTCCTAGAGACATTTATTCATTCTAAAGAAAGCCACGATGCTTCAGTGGATTGAAGTGTGACGAAACAGTTTA
ATAATAGTCAGGCAGCTTGTGAGTGGTTTTAGATCGTATGGCTGATGACGACTGGTGGCCAATGCAGATACTAA
TTAAGTGCCCTAATCAATTTGTGAGACAGATGTTTCAGCGTTTGTATCCATGTGATTCAGAGGCTGAGACCTGT
GCATGCTCATCTATTTGCAGCCAGGAATGGAAGATGGGTGAGATGATGATGATACCTCAGTAGAAGATATTGG
TGGTCGTTTCATGTGTCACCTGCTTTGTGAGAACCTGTTAATTAATGGAACATGGTGTAAACCTCACAGTAA
CATCTTACAGAGTATTTTGCCCTTCCCTTACGAAATTTGCAAAAATGGGTGAAGAGAGGCCAAATTTTTCCTTCATT
GCAAGCTATATCTACAATGGTACATTTTACATGGGAACAAAAGGACCTGAAATCCTCAAGTTGAAGTGTATCA
GAGGAAGAGGGGAGAAAGAGGAGGAAGAGATATCCTCTCTCTGGCAGAGAAATACAGGCCAGCTG
CCCTTGAAAAGATGATAGCTTTAGTTGCTCTTTTGGTTGAACAGTCTCGATCAGAAAGGCATTTGACATTATCACA
GACTGACATGGCAGCATTAAACAGGAGGAAGGATTTCCCTTCTTGTTCACATATTCGTGATGGCATCAATATA
AGACAACTTGTAATCTGATTTTCAGCCTGTGTCGATACAATAATCGACTTGCAGAACATATTGATCTATGCTTTT
CACATCAATAGCAAGTTGACTCCTGAGGCAGCCATCCTTTCTTAAGTTGTGACTATGCTAATGGAGTTTGCT
GGTGACCTCCAGGAATGCCCTCCCTTTGCATCTTATATTCGCAGAGGATATGGAGGTGATTGAATACAACTCT
TCTCAGTGTCTAGATTGGTTGGCAGTGCAGACACCCGAAATAAACTGGCACACAGCTGGGTCTTACAGAAATATG
GAAACTGGTGCAGCGGTTCTTTGGCTCACAAATATCCTAGAGTGAGGACTTCTGCAGCTTATCTTCTGGTG
TCCCTTATACCAAGCAATTCATTCGTCAGATGTTCCGGTCACAAAGTCTTTGCACATCCCAACCCGTGACCTT
CCACTCAGTCCAGACACACAGTAGTCTACATCAGGTCTACAACGTGCTCCTTGGTTTGTCTCTCAAGAGCCAAA
CTTTATGTTGATGCTGTTTCATGGCACTACAAAGCTAGTGCCCTATTTAGCTTTATGACTTACTGTTTAAATTC
CAAACTGAGAAAGCTGATGTTTTCCACATATTTTCATGGATTTGTGAACCTTTTCCAGCCTAAACCTTCTGAGCCA
GCAATAGCTACAATCACATAAACAGGCTTTGCTTTCAATTTGGTACAAATGCTGTGCTGACTGTCCAGAGAATA
TCCGCTTATTGTTCAGAACCCAGTGGTAACCAAGAACATTCCTTCAATTACATCCTTGTGCTGACCATGATGATCA
GGATGTGGTGCTTTTAAACCGTGGATGCTGCCAGCGTACTATGGCAATTCAGGCTCTGCTGTGAGCAGTCTC
CTGCAATTCACAGCAACTGGCTTCTCACCAGAACATCCAGTGGCCTTTAAGAACTTACACCCACATGCCAGCC
AATACCCCTGGAGCAGTAGAAGAACTGTTTAACTGATGCAGCTGTTTATAGCTCAGAGGCCAGATATGAGAGAAG
AAGAATTAGAAGATATTAACAGTTCAAGAAACCAACCAATGTTGTTACTTACGTTGCTTAGATGGCCGCTCCTG
CTGGACTACTTTAATAAGTGCCCTTCAGAAATACTATTAGAATCTGATGAAGACAGACTTCTTGTGTTAATTCGAG
GATTGATTCTAATGACAGAGTCTTTCAACACTTTGCACATGATGATCACGAAGCTACAGCTTGCCATGTGACTGG
AGATTTAGTAGAACTTCTGTCAATATTTCTTCGGTTTTGAAGTCTACAGCCCTTATCTTCAGAGAAAAGATGTGA
AACAGCATTAATCCAGTGGCAGGAGCGAAATTTGAATTTGCCCATAAACTGTAACTCTTCTTAATTCCTATAGTCC

TCCAGAACTTAGAAATGCCGTGTATAGATGTCCTCAAGGAACCTTGTAACCTTTGAGTCCCCATGATTTTCTTCTACT
 CTGGTCCCCTTTCTACAACACCAACCAATTGTACTTACCATCACAGTAATATACCAATGTCTCTTGACCTTATTTCCC
 TTGTCGAGAAATATCAAGCTAATAGGAGGAAAGCAATATTCGGCTCCGGCCCTGAACCTCAATATGTGCCT
 CTTGCCACAATGGTGAACCCAGTAAGGGCAAGATGACGTTTATGATCGTATGCTGCTAGACTACTTCTTTTC
 TTATCATCAGTTTCATCCATCTATTATGCCGAGTTGCAATCAACTGTGAAAAATTTACTGAAACATTAGTTAAGCTGA
 GTGCTCTAGTTGCCTATGAAGGTTTGCCACTTTCATCTTGCACTGTTCCTCCCAACTTTGGACTGAGCTATGCCAGA
 CTCAGTCTGCTATGTCAAAAACCTGCATCAAGCTTTTGTGTGAAGATCCTGTTTTCGCAGAAATATATTAAATGTATC
 CTAATGGATGAAGAAGAACTTTTAAACAACAACATTTGTCTACACGTTTCATGACACATTTCTTCTAAAGGTTCAAAG
 TCAAGTGTTTTCTGAAGCAAACTGTGCCAATTTGATCAGCACCTCTATTACAAACTTGATAAGCCAGTATCAGAAC
 CTACAGTCTGATTTCTCAACCGAGTTGAAATTTCCAAAGCAAGTCTTCTTTAAATGGGACCTGAGGGCACTC
 GCTTTGCTCCTGTGCTAGTACACACTCCCAACAGTTAAACCCAGCTCTAATTCCACTCTGCAAGAGCTTTTAAAGCA
 AATGCAGGACTTGTCTGCAACAGAGAAACTCACTCCAAAGAGCAAGCAAGCCAAAGAAAGAACTAAAGATGATG
 AAGGAGCAACTCCCATTAAAGGGCGGTGTAGCAGTGATGAGGAGCACACTGTAGACAGCTGATGACAGCTCAGTGAC
 ATGAAACAGAAACCGAGGAGTCTGACCCCAACGAGCACTCTGACAAATGAGACCAGAGACTCCTCAATTAT
 GATCCAGGAACCTGAGCAAGATCTTCTTCCCTTGAAATAGTTCTGTTAAAGAAATACCGAATGGAAGTTCCATCTT
 CGTTTTCAGAAGACATGTCAAATATCAGGTCACAGCATGCAGAAACAGTCCAAACATGGTAGATATGACGATT
 GTAAAGAAATTAAGACCTCCACTGTTCCAAAGGATTTACCTAGCTGAGGAAGAATCTGAGTTCCCTTCTACTTC
 TATCTCTGCAGTTCTGTCTGACTTAGCTGACTTGAGAAGCTGTGATGGCCAAAGCTTTGCCCTCCAGGACCCCTGA
 GGTGCTTTATCTCTCAGTTGTGGCCATTCCAGAGGACTCTTTAGTCATATGCAGCAACATGACATTTTAGATACC
 CTGTGTAGGACCATTGAATCTACAATCCATGTCGTCAAGGATATCTGGCAAGGAAACCAAGCTGCTTCTTGA

>SGPR430_SEQID_6
 ATGTCTCCTCTGAAGATACATGGTCCCTATCAGAAATTCGAAGTATGCAGACTGGGATTACAAAGTGGAAAGGA
 TCCTTTGAAATTGTAGAAAAAGAGAAATAAGTCAGCCTAGTAGTTCACTACAATACTGGAGGAATTCGAAGGATAT
 TTCAGCTAAGTCATAACATTAAAAATGTGGTCTTCGACCCAGTGGAGCGAAACAAAGCCGCTAATGTTAACTC
 TGCAAGATAACAGCTTCTTGTCTATTGACAAAGTACCAAGTAAAGGATGCAGAGGAAATGAGGTTGTTTCTAGATG
 CAGTCCATCAAAACAGACTTCCTCGAGCCATGAAACCGTCTCAGGGTCTGTTAGTTTGGAGCCATCTGGGC
 AGCAGGACCTCACAGAAAGGAAACCGAGGAGCTTTCTTACTCAGACAAATCAGGCTTCTGCAAAAAGAGGAAG
 TTTGGAAACTAAAGATGATATTCATTTCGAAAAGTTCTTGTAATCCGGGTAGAGGATCGATTAAAGACTGTAGCA
 GGAAGTGGAATAGCTCGGACGATTCTTCTTTGACATCTACTTCAACACCTCTTAGATCAGGGTTGCTAGAAAAAT
 CGTACTGAAAAAGAGGAAAGAAATGATATCAACTGGCTCAGAAATGAATGAAGATTACCTTAAGGAAATGATTCTAT
 CATCGAACAAACAAGGCCATGACAGATCCCTCCAGAAAGTATTTAACCCAGCAGTAGAGAAAGCAGCTGAGTTTGA

AACAGTCAGAAGAGATAGGACATCAGGTGGGCTTTTACCTTTACAGTCATCATCCTTTTATGTAGCAGAGCTG
GATCCAAGGAACACTCTTCTGGTGGCACTAACTTAGACAGGACTAATGTTTCAAGCCAGACTCCCTCTGCCAAAA
GAAGTTTGGATTCTCCTCAGCCAGTTCCTCTTTCTGTTAAAACTGAGGTGAACCAAGGATTACACTGGCTG
GAATAAACCAAGAGTGCCCTTTTCTCTCACCAACAGCAGCAACTGCAGGGCTTCTCCAATTTGGGAAATACCTG
CTATATGAATGCTATTCTACAATCTCTATTTTACCTCCAGTCATTTGCAAAATGACTTGTCTTAAACAAGGTATCCCAT
GGAAGAAAATCCACTCAATGCACCTTATCAGACGCTTTCACACTTGTCTTAAAAAAGATATCTGTAATTCAGA
GACCAAAAAGGATTTACTCAAGAAAGGTTAAAAATGCCATTTACGTACAGCAGAGAGATTCTCTGGTTATATGCAG
AATGATGCTCATGAATTTTAAAGTCAGTGTTTGGACCAGCTGAAAGAAGATATGGAAAAATTAATAAACTTGGGA
AGACTGAACCTGTTTCTGGAGAGAAAAATTCACCAGATAATTCAGCTACCAGAGCATACACTTGCCTGTTATTAC
TAATTTGGAGTTTGAGGTTACGACTCCATCATTTGTAAAGCATGTGGAGAGATTATCCCCAAAAGAGAACAGTTT
AATGACCTCTCTATTGACCTTCTCGTAGGAAAAAACCACTCCCTCCTCGTTCAATTCAAGATTCTCTTGATCTTT
CTTTAGGGCCGAAGAACTGGAGTATTCTTGTGAGAAAGTGTGGTGGAAAGTGTGCTCTCTCGCTTAAACAATAAGATT
CAGGCTTCTAGGTCCTCATTTCTCCATTTGAAACGATATAGCTTCAATGTGGCTCTCTCGCTTAAACAATAAGATT
GGCAGCAAGTCATATCCAAGATACCTGACCTGTCTCATTTGCACCTGAAATACAAAACCACTTTTACCC
TTGGTTGGAGTGCACATATGGCAATGTCTAGACCAATTGAAGCCTCTCAATGGTGAATTCCTGCATCACAGCC
CTTCTACACCTTCAAGAAATTCACCTTCAAAATCCAAGAGCTCCTTGGCTTTTATGCCTTGATTACAGACAGTGAGGA
TGAGCTAAACGTTCTGTGGCCCTCAGCCAGAGACTTTGTGAATGTAGGCAACGAACAGCAGGAAAGACC
TGGAATAAGATTCAAAATTAATGCCCAATAGAGCCTGACAAGTCTGAATGGAAAACTCAGGATTTGACAGAAATGA
GCGAAGAAGAGCTTCTAGCAGCTGTCTTGGAGATAAGTAAGAGAGATGCTTACCCTCTCTGAGTCATGAAGATG
ATGATAAGCCAACTAGCAGCCAGATACCGGATTTGCAGAAGATGATATTCAGAAATGCCAGAAATCCAGACA
CTATGGAACTGAGAAAGCCCAAAACAATCACAGAGCTGGATCCTGCCAGTTTACTGAGATAACTAAAGACTGTG
ATGAGAAATAAGAAAAACAACCTCAGAAGGATCTCAGGGAGAAAGTTGATTGGCTCCAGCAGTATGATATGGAGC
GTGAAAGGGAAGAGCAAGAGCTTTCAGCAGGCACTGGCTCAGAGCCTTCAAGAGCAAGAGGCTTGGGAACAGAA
AGAAGATGATGACCTCAAAAGAGCTACCGAGTTAAGTCTTCAAGAGTTTAAACAACCTCTTTGTGGATGCAATTGGG
TTCTGATGAGGACTCTGGAAATGAGGATGTTTTGATATGGAGTACACAGAAGCTGAAGCTGAGGAAGTGAAGAAG
AAATGCTGAGACAGGAAATCTGCCTCATTTGTACCGGCTCATCAGTGTTCAGTCACATTTGGTAGCACTTCTTC
TTCAGGTCAATTACATTAGTGATGATATGACATTAAGAAGCAAGCGTGGTTTACTTACAATGACCTGGAGGTATCA
AAAATCCAAGAGGCTGCCGTGCAGAGTGATCGAGATCGGAGTGGCTACATCTTCTTTTATATGCACAAGGAGATC
TTTGATGAGCTGTGGAACACAGAAAAAGAACTCTCAGTCACCTTAGCACGGAAGTGGGAAGACTACCCGTCAGGC
CTCGTGA

FIG. 11

>SGPR496_1_SEQID_7
 ATGACACTACTTGCTCCCTGGTACACAGGCCCCATGATCCCCATGGATGTTAATGAGCCCAGCTCCGTGACCAC
 GGCTCCTACCCCTAGCCTGAGCATATCTCCTCATCTCTGGCCACTGGTAAGAACTTTCCCTCCATTT
 TGGTCATCCACGTGAGTGAAGTCACCCAGGATTGATGACAAAATAGAAGAGGATTGGAAGACAGTGAGCCAG
 GTGCCAAACTCTTCAATAATGATGGAGTCTGTTGCTGCAAAACGGGGCCAGTGAACATTACATCAGTGT
 GTGTGAGTCCAGGACCTTACAAATATACAGTTTTTGTGTTATCAGAGAAATACGAGGGTATTGTTAAATTTGAATC
 GGATGAATTACCTTTTGGTGAATTGTTCTAATATTGGTGATGCACATTTTCAAGAAATTCAGGGCTGGAATCTCC
 TGAAGCCTGTGTAGATCCTGATGACCCCATCTCAGTTCCCTGATTGCTGCAGCAGCAGCAGCAGGAT
 TCCTTCAGTGAGTGTGCTAGTTGCAGTTCTCTGTTGCAGGCCACAAAGGCAGGCAATTTATTGAAGGATGCT
 GGGTGCTTCAAGGAATTGAAGCAAGAGCTGACTCAGGAAGGCCGGCGGGGACACCCAGGTCTGCGTG
 GCCCCGCGCCACGCCAGTGGCCGCCAGCCCTGCGAGCAGGGGAGGAGCCGCCAGTGGAGG
 CGAGAGGTAGAGGAGGGGAGACGGCGGAGAAAGCGGAGAGGAAGTGGAGCGGAGGCGGAAGGTGGA
 GGGGAAGCGGAGGGCGGGAAGCGGAGGGCGGGAAGTGGACGCCACCCAGAGAGGAGTGAAGTGAAGCT
 GCGGGGAAGGTGACGCCGCTGGGAAGGTGGAGACGGCGAGGGTCCGGCCCGCGGCTGAGCTCAAGCT
 GGAGCCCGAACCCGAGCCGTCGCGGAGCGGAGCAGGAGCCGAAGCAGGAGCTGGAGGATGAGAACCAG
 CGCGAGCGCGGTGGCGGAACAGCAGAGGTTCTCCCCCACCCTTCCCTCCGATCCACCGCGGCCCC
 CCGATCCCTCTCCGCTCGAGTGTGCGCGCGCGCCAGCCCGCGCCCGCGGCTGGGGCGGATGCCCTG
 CCGCGCGCAGCCTAGGCCCGCGCCCG
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 AGGAAGTGGGGTTATCTACAGTGTCTCGTGTGGTGTGAACCCAGAGACCAGGAAAGCAAGGCAAGTCC
 TGCATCTGCCATGTGTGCAACCATCTGAACAGACTCCACTTTGCCCTTCCGTGTCTTTGGCTGCTTC
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 ATACTGCTTTATGTGAAGGACTATGTATATGACAAAGACATTGAGCAAAATTGCCAAAGAGAGCAAGGAGAGC
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 CCCAACCTGGGAAACAAACCAACAGAAATTAGAACTGCTGGGCAACACCCGAGGAGAGAAATCACCTCCA
 GCTTTACGATCGGTTAAGAGGACTCATCAATCTTGGCAACACGTGCTTTATGAAGTCACTGTCAGGCCCTCA
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 CAGCCTTGTTCCCTGTTCTTCACAGCATGAAGGAGACTGAAAAGGACCACTTTCTCCTAAAGTTCTTTTTAATCA
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 AAGTGCTTCAAAGCAGACTGGGCTGTTTCAGATCCAGTAGTCCGGTGTGCAGCCAGATGGACCCCTTTACC
 CTCGTGACGAGGTAAACTGCTGTACACCAAGGAGACTGACAGTGGTGATAGGAAATGGCAGAAAGCTATTTCT

FIG. 1J

GAAGTTCGTTTGAGCAGCAGCTGTAAGTGGGATCAAGATTTTGACAGAGAAAAATCAGCCACTAAATATTTCAAATA
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 TATAACTACTTCTAAAGATGTTCAATTCAGTCTCTACCAAGTTACATCTATGGAATTAATGGAATA
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 TCCCTCTCCACCCCAAGGGAGTGTCTGCTAAAGAGTCTGAGTTAAATGATGCTGACTGGGCCAACCTA
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 CCAGATGCTGCTGCTGGGCAAGACCTGTGATAGGTGATACAGTCAGCAACAGCCAGACAACTAGGGACAAG
 GCTTGACAGCGGCCACCTTCTCACTCTGTCTTACACACAGTCCCTCTCTGGGCATGCTCGGATCCTGATCTCTTC

FIG. 1K

TTCTATGGACACAGTCATATTGGATGAAGGCCACCTTAATGACCTCATTTAAGGGAGGGCCTGTGACACAA
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GCACCAAGGACGTTCTTCAGAGAAAGCTGTCTTTCCCTGTTCTTACATTTTTCATAAGGCAGGTA
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GGAACCAAGACAGCTGGGTGGGAAGGGCTCCCTGTCAAAACCTCAACAGCCTGTGCACTGGGAGGAATGAAC
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 CTTTAGAAGGAAAAATCTACGTATGTGACCAGTGAACCTCAAGCGTAGAAGTTTTCTCCAAACCAGTTGTACT
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 GTCAGGACGTAATAACCGAGAGAAGATTGGTGTTCATGTTGGCTTTGAGGAAATCTTAAACATGGAGCCCTATTG
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 GGAAAGGATTTGGCTCAGGCCACTACACTGCCTACTGCTATAATCTGAAGGAGGTTCTGGGTACACTGCAAT
 GATTCCAAACTAAGCATGTGCACATATGGATGAAGTATGCAAGGCTCAAGCTTATATCTTGTTTTATACCCAAACGAG
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 AGGCATTGACTTCTGCCGTCCATTTCCGGGAGAAATGTGTTGGCATAAAGGCCCGCCAGCAAAAAGAAAGGAAAAAC
 TTGCTGACGTGCCCTGGCGACCTTTTCCACAGCATTTGCCACACAGAGAAGAGGTTGGCGTCAATCCACCAA
 GAAGTTCAATTTCAAGGCTGAGAAAAAGAGAATGATCTCTTTTGATAACTACATGCAGCAGGATGCTCATGAATTTTAA

FIG. 1M

AATTATTTGCTAAACACTATTGCGGACATCCTTCAGGAGGAGAAACAGGAAACAAAATGGAAAATTAATAAA
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TTAGTAACACAGCCACTGACACAGTATTTTATCTCAGGGAGACATCTTTATGAACTC AACAGGACAAATCCCAT
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TGCCCCATTAAAGCTTCGGTGGACCATAGCAAAATATGCTCCAGGTTTAAATGGTTTCAGCAACAGGACTCCCA
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CAATTGTTGTGGATTGTTCCATGGGCAGCTAAGATCTCAAGTAAATGCAAGACATGTGGGCATATAAGTGTCC
GATTTGACCCCTTCAATTTTTGTCTTTGCCACTACCAATGGACAGTTATATGCACTTAGAAATAACAGTGATTAG
TTAGATGGTACTACCCCTGTACGGTATGGACTAAGACTGAATATGGATGAAAGTACACAGGTTTAAAAAACAG
CTGAGTGATCTCTGTGGACTTAATTCAGAAACAATCCTTCTAGCAGAAGTACATGGTTCCAACATAAAGAACTTTC
CTCAGGACAACCAAAAGTACGACTCTCAGTGAGTGGATTTTGTGTGCAATTGAAATTCCTGTCCCTGTGTCTCC
AATTCAGCTTCTAGTCCAAACACAGACAGATTTCTCTCTCGCCATCTACAAATGAAATGTTACCCCTAACTACC
AATGGGACCTACCCGACCAATATTTCATCCCAATGGAATGCCAAACACTGTGTGCCATGTGGAACGTGAGAA
GAACCTCACAAATGGAATGGTAAATGGTCACATGCCATCTCTCCTGACAGCCCCCTTACAGGTTACATCATTGCA
GTCCACCGAAAAATGATGAGGACAGAACTGTATTTCTGTCTATCTCAGAAGAAATCGCCCCAGCCCTCTTTGGAATG
CCATTGATTGTTCCATGTACTGTGCATACCCGGAAGAAAGACCTATATGATGCGGTTTGGATTCAAGTATCCCGG
TTAGCGAGCCCACTCCACCTCAGGAAGCTAGTAATCATGCCAGGATTGTGACGACAGTATGGGCTATCAATAT
CCATTCACTCTACGAGTTGTGCAGAAAGATGGAACTCCTGTGCTTGGTGCCCATGTTATAGATTTTGCAGAGGC
TGTAATAATTGATTGTTGGGAAGACAGAGCTTTTCAATTGGAAATGCCTATATCGCTGTGGATTGGATCCCACAGCC
CTTACCTTCGCTATCAACATCCCAGGAAGGTTGTAGATGAGCATGAGAGTGTGGAGCAGAGTCGGCGAGC
GCAAGCCGAGCCCATCAACCTGGACAGCTGTCTCGTGCTTTACCCAGTGAGGAAGAGCTAGGGAAATGAG
ATGTACTACTGTTCCAAAGTGAAGACCCCACTGCTTAGCAACAAGAAAGCTGGATCTCTGGAGGCTTCCACCCATC
CTGATTATTCACCTTAAGCGATTTCAATTTGTAAATGGTCGGTGGATAAAATCACAGAAATTTGTCAAATTTCTCTCG
GAAAGTTTTGATCCAAAGTGCTTTTGTGTACCAAGAGACCCGGCTCTCTGCCAGCATAAACCACTCACACCCCA
GGGGATGAGCTCTCTGAGCCCAAGGATTCTGGCAAGGGAGGTGAAGAAAGTGGATGCGCAGAGTTCGGCTGG
GGAAGAGGACGTCTCTGAGCAAAAGCCCATCTCACTACGCGCTAACATCATCAGCAGCCCGAAAGGTTCTC
CTTCTTCATCAAGAAAAGTGGAACCAAGCTGTCCCTCCAGCAAAACAGCAGCCCTAATAGCAGCCCAAGGACTT
TGGGAGGAGCAAGGAGGCTCCGGCTGCCCAAGATTGGCAGCAAAAATAAACTGTCAAGTAGTAAAGAGAA
CTTGGATGCCAGCAAGAAAATGGGCTGGGCAGATATGTGAGCTGGCTGACGCCCTTGAGTCGAGGGCATGTG
CTGGGGGCGACCCACAGAGTTGGTCACTCTCAGGACCATGAGGTAGCTTTGGCCCAATGGATTCCTTTATGA
GCATGAAGCATGTGGCAATGGCTACAGCAATGGTCAGCTTGGAAACCAACAGTGAAGAACAGCAGCACTGATGACC
AAAGAGAAGATACTCGTATTAAAGCCTATTATAATCTATATGCAATTTCTGTCATTCAGGAAATCTGGTGGGG
CCATTACGTCACTTATGCCAAAAACCCAAACTGCAAGTGGTACTGTTACAATGACAGCAGCTGTAAAGAACTTCA

FIG. 1R

CCCGGATGAAATTGACACCGACTCTGCCCTACATTCTTTCTATGAGCAGCAGGGGATAGACTATGCACAATTTCT
GCCAAAGACTGATGGCAAAAAGATGGCAGACACAAGCAGTATGGATGAAGACTTTGAGTCTGATTACAAAAAGTA
CTGTGTGTACAGTAA

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ATGGACAAGATCCTGGAGGGCCTTGAGTTCCTCGCATCCCTGCCCTCAAGCGGGTGATTGTGCGGAAGG
TGGTGGAATCGCGGAGCACTGGCTAGACGAGGCGCAGTCCGAGGCCATGTTTGACCTGACGACCCGGCTCAT
CCTGGAGGGCCAGGACCCCTTCCAGCGCAGGTGGGCCACCAAGTGTGGAGCCCTACGCACGATACCAACCG
GCCAGAGTTCGAGTCCCTTCAACAAGACCTTCGTGTTGGCCTCCTTCATCAGGGCTACCACTCTCTGGACAG
GAAGGATGAGCCATCCTGGACTACATTCACAACGGCCTGAAGCTGATTATGAGCTGTCCGTCCGTGGTGGATC
TCTTTAGCCTCCTGCAGGTAGAGGTGTTACGGATGTGTGAGAGCCGGAAGCCGAGCTCTGTGCCCCGACT
GAGCGACCTTCTGACCGACTTTGTGCAATGCATCCCAAGGGAAATTGTCCATCACGTTCTGTCAACAGCTGGT
TCGAACGATAGGCCATTTCCAGTGGTGTCCACCCAGGAAGAGAGAGCTGCGGGAATATGTCTCCCAGGTGACAA
AAGTAGTAACCTTGTGCAGAACATCTGGAAGGCCGAGCCTGCCACACTACTGCCCTCCCTGCAAGAAGTTTTTG
CAAGCATCTCTCCACAGATGCATCATTTGAACCTTCTGTAGCATTGGCAAGCCTTGTGCAGCATATTCCTCTTCA
GATGATTACAGTTCTCATCAGGAGCCCTTACTACGGATCCAAATGTAAAAGATGCAAGTATGACCCCAAGCCCTTG
CAGAAATGATTGACTGGCTATCCTGGCCATTGGCTCAGCATGTGGATACATGGGTAATTGCACCTCCTGAAAGGACT
GGCAGCTGTCCAGAAGTTTACTATTTGTAGATGTTACTTTGCTGAAAATAGAACTGGTTTTTAATCGACTTTGGT
TTCCTCTTGTGAGACCTGGTGCTCTTGCACTTCTCTCACATGCTGCTTAGCTTTTCCAGCATTCTCCAGAGGCGTT
CCATTTGATTGTTCCCTCATGTGGTTAATTTGGTTCATTTCTTCAAAAATGATGGTCTGCCCTTCAAGTACAGCCTTCT
TAGTACAATTAACAGAAATTGATACACTGTATGATGATATCATTAATCTGGATTTCCAGATCTCTATGAACCTATTCTG
GAGGCAATAAAGGATTTTCTAAGCCCAAGTGAAGAGAAGATTAAGTTAATCTCAATCAAAGTGCCTGGACTTCTC
AATCCAATTTCTTTGGCGTCTTGCTGTCTAGACTTTCTGGAATCTGAAACTGGGAAACTGGTCTTATTAACTT
AGGAAATACATGTTATATGAACAGTGTATACAAAGCCTTGTTATGGCCACAGATTTTCCAGGACAAAGTATTATCT
TTAAATCTAAATGGTGCAATTCATTAATGAAAAAATTACAGCATCTTTTGGCCTTTCTGGCCCATACACAGAGGG
AAGCATACGCACCTCGGATATCTTTGAGGCTTCCAGACCTCCATGGTTTACTCCAGATCACAGCAAGACTGTT
CTGAATACCTCAGATTTCTCCTTGACAGGCTCCATGAAGAAGAAAGATCTTGAAAGTTCAGGCCTCACACAAGC
CTTCTGAAATCTGGAATGCAGTGAAACTTCTTTACAGGAAGTAGCTAGTAAAGCAGCAGTACTAACAGAGACCC
CTCGTACAAAGTGACGGTGAGAAGACTTAATAGAAAAATGTTTGGAGGAAAACTACGAACTCACATACGTTGTTT
GAACTGCAGGAGTACCTCACAAAAAGTGGAAGCCTTTACAGATCTTTCGCTTGCCCTTTTGCTCTCTCTTTG
GAAAAACATGTCTGTCCAAAGATCCAGCATCATCACCCAGTATACAAGATGGTGGTCTAATGCAAGCCTCTGTACCC
GGTCCCTCAGAAAGAACCCAGTAGTTTATAATCCAACAACAGCTGCCCTTCATCTGTGACTCACTTGTGAATGAAAAA

CCATAGGCAGTCCTCCTAATGAGTTTTACTGTTCTGAAACACACTTCTGTCCCTAACGAATCTAACAGATTCTTGT
TAATAAAGATGTACCTCAGAAACCAGGAGGTGAACCCACACCTTCAGTAACCTGACTTACTAAATTTTGGCT
CCAGAGATTCTTACTGGTATAACCAATATTATTGTGAAACTGTGCTCTCTGCAAAATGCTGAGAAACTATGC
AAATCACGGAGGAACCTGAATACCTTATCTTACTCTCCTGAGATTTTCATATGATCAGAAGTATCATGTGAGAAG
GAAATTTTAGACAAATGTATCACTGCCACTGGTTTTGGAGTTGCCAGTTAAAGAAATTACTTCTTCTCTTCAATTGT
CAGAAAGTTGGTCTGTAGATGTTGACTTCACCTGATCTTAGTGAGAACCTTGCTAAAAAATTAAGCCCTTCAGGGAC
TGATGAAGCTTCTGCACAAAATTGGTGCCCTATCTATTAAAGTCCGTTGTGTTCACTCTGGTATATCCTCTGAA
AGTGGGCATTACTATTCTTATGCCAGAAATATCACAGTACAGACTCTTCATATCAGATGTACCAACAGTCTGAGG
CTCTGGCATTAGCATCCTCCAGAGTCATTTACTAGGGAGAGATAGTCCCAGTGCAGTTTTTGAACAGGATTTGG
AAATAAGGAAATGTCAAAAGAAATGGTTTTATTTAATGACAGTAGAGTGACATTTACTTCAATTCAGTCAGTCCAG
AAATTACGAGCAGGTTCCAAAGGACACAGCTTATGTGCTTTTGTATAAAACAGCATAGTACTAATGGTTAA
GTGGTAATAACCCCAACCAGTGGACTCTGGATAAATGGAGACCCACCTCTACAGAAAGAACTTATGGATGCTATAA
CAAAAGACAATAAACTATATTTACAGGAACAAGAGTTGAATGCTCGAGCCCGGCCCTCCAAGCTGCATCTGCTT
CATGTTCAATTCGGCCCAATGGATTGTATGACAACGACCCACCGAAGCTGTGGACCAACTGGTGGAGGGGT
GGAGGAGGATTTAATACAGTTGCCAGACTCGTATTTTGA

FIG. 15

>SGPR429_SEQID_16
ATGCCCCCGGCTGCAGCTGGAGAAGGGCGGCTGGCGTGCGGCGAGACGGTGCAGGCGCCGAGGAGGTGTC
GCAGGAGCATATCGAGACCGCTTACCGCATCTGGCTGGAGCCCTGCATTGCGGCGTGTGCAGACGAAACTGC
AAAGGAAATCCGAATTGCTTGGTGGTATTGGTGAGCATAATTGGTTAGGAGAAATAGATGAAATAGTTTTTCATA
ACATCGATGATCCCAACTGTGAGAGGAGAAAAGAACTCAATTTGTGGCCTGACTAACCTTGGAGCCACTTGT
ATGTCAACACATTTCTCAAGTGTGGTTCTCAACTTGGAGCTTCGGCAGGCACTTACTTATGTCCAAGCACTTG
TAGTGACTACATGCTGGGAGACGGCATCCAAGAGAAAAGATTATGAGCCTCAACAATTTGTGAGCATCTCCA
GTACTTGTTCCTTGTGCAAAACAGTAATAGCGGATACATTGATCCATCAGGATTTGTTAAAGCCTTGGGCCTG
GACACTGGACAACAGCAGGATGCTCAAGAATTTTCAAGCTCTTTATGCTCTATTGGAAGATACCTTGTCTAAAC
AAAAGAAATCCAGATGTGCGCAATATTGTTCAACAGCAGTTCTGTGGAGAAATATGCCTATGTAAGTGTGCAACCA
GTGTGCGCAGAGTCTAAGCTTTTGTCAAAATTTTATGAGCTGGAGTTAAATATCCAAGGCCACAACAGTTAACA
GATTGTATCTCGGAATTTTGAAGGAAGAAAATTAGAAGGAGACAATCGCTATTTTTCGAGAACTGTCAAAGCA
AACAGAAATGCAACAAGAAAGATTCGACTTCTTAGCCTTCTTGCACCTGAACTTGCAGCTAATGCGTTTGTCTT
TGACAGGCAAACTGGACATAAGAAAAGCTGAATACCTACATTGGCTTCTCAGAAATTTTGGATATGGAGCCTTAT
GTGGAACATAAAGGTGGTCCCTACGTGTATGAACCTACGCGCAGTCCCTCATAACAGAGGAGTGAGTGCTTATCT
GGCCACTACATCGCCACAGTGAAAGATCCACAGTCTGTGTAATGGTATAAGTTTAAATGATGAAGACATAGAAAAG

FIG. 1T

ATGGAGGGAAGAAATTACAACTAGGGATTGAGGAAGATCTAGAACCTTCTAAGTCTCAGACACGTAAACCCAAG
 TGTGCAAGGAACCTCATTGCCTCTCGAAATGCATATATGTTGGTTTATAGACTGCAAACTCAAGAAAGCCCAACA
 CTAAGTTCAGGCTCCAGGCTTTCTTCAAGAGCTGGTAGATCGGATAATTCCAAATTTGAGGAGTGGTATTGA
 AATGGCTGAGATGCGTAAGCAAGGTGGATAAAGGAAAGCAAAACACGAAAGGTTAAGGAGCTGTACCAAA
 GGTACCTGCTGGAGCTGAGCCCTATGAGTTTGTCTCTCTGGAATGGCTGCAAAAGTGGTTGGATGAATCAACAC
 CTACCAAAACCTATTGATAATCACGCTTGCTGTTCCCATGACAAGCTTCACCCGGATAAAATATCAATTTATGAA
 GAGGATATCTGAATATGCAGCTGACATTTTCTATAGTAGATATGGAGGAGTCCAAGACTAACTGTGAAAGCCCT
 GTGAAGGAATGTGTAGTAGAACGTTGTGCGATATTGCGTCTGAAGAACCACTAAATGAAGATTATAAACTGTT
 AATAATCTGCTGAAAGCAGCAGTAAAGGGCGATGGATTTTGGGTGGGAAGTCTCCTTGGGAGTTGGCGCCA
 GCTAGCTCTTGAACAGCTGGATGAGCAAGATGGTAGCAGAAACAAGCAACGGAAGATGAACGGTAGCACCT
 TAAATAAGATGAATCAAGGAAGAAAGAAAGAGAGGAATTAATTTTAAATGAAGATATTCTGTGTCCACA
 TGGTGAGTTATGCATATCTGAAATGAAGAAAGGCTTGTCTAAAGAGGCTTGGAGCAAACTGCAGCAGTACTT
 TCCAAAGGCTCCTGAGTTTCCAAGTTACAAAGAGTGTCTTTCACAGTGCAGATTTTAGAAAGAGAGGGGAAGA
 AATGAAGCCCTTACATAAGATGATTGCAACGAGCAAAAGACTTCTCTCCAAATTTGTTCCAGGATAAAACAGA
 CCGTGTCTCAGTAAGTGGCCAGAGATACGGATGTCTCTACATCGTCTCAGTCTTTGTAGAAAGTGGCG
 GAAATTTGTTAGAAAGCCTACAAGATGCAGCCCTGTGTCTCATCAGTTGGGAACAGTGTCTTTTGTGTCCACGG
 GGGCCTCATGTTTACATTTGCTTCCATGACCAAGAAAGATTCTAACTTATAGCTCTCATATGCCCCAGTGAGTGG
 CAAATGATACAAAGCTCTTTGTTGGATCATGTAATTAATCACGAGAAATTGAAGTGGAGATGTAAACCCCT
 CAGAACACAGTATATTCTGAGCCCCAACTCTGTCCAGATGCAGAGAAAGGCTTATTGTGTACGACGAGAGGG
 ACCTGCGTGAATACACTCAAGCCACCATCTATGTCCATAAAGTTGTGGATAATAAAAGGTGATGAAGGATTTCGG
 CTCCGGAAGTGAATGTGAGTAGTTCTGAACACAGAGGAGCAAGGAGAGCTAAACCCAGATGGAGAAAGAT
 CCAGATTTTAAATCAAGCAATGGTGAACAAAGCGCAAAAGATATCCCATCAAAATATATAGCCTATCAAAAGC
 AAGTTATCGCCGAAGTATCGACATAGAAAGTTCTGTGTGAGAAAGCACTTCTGTTTCTGCTAATCAGACGT
 TAAAGAATTGAAATTCAGATCATGCATGCAATTTTTCAGTTGCTCCTTTTGACCAGAAATTTGTCAATTTGATGGAAG
 ATTTTAAGTGATGACTGTGCCACCCTAGGCACCCCTTGGCGTCAATTCCTGAATCTGTCAATTTTATTGAAGGCTGATG
 AACCAATTGCAGATTATGCTGCAATGGATGATGTCATGCAAGTTTGTATGCCAGAAAGGGTTTAAAGGTACTG
 GTCTTCTTGGACATTAA

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 ATGCTGAGCTCCGGGCGGAGGCGCGGATGACCCGGGCGGACAGGGCCCATCCAGCGCTTCTCGGGACCGGG
 GCGGCCGTCAGATATAAGTCAATGAAGAACTGGGAGTTATAGGTGGAATTGCTGCTGCTCTTGCAGCAGGAAT
 ATATGTTATTTGGGTCCCATACAGAAAGAAAGAGCGTAGAAAGGGCTTGTGCTGCGCTTGTGTTAATTAGG

GAACACCTGCTTCATGAACCTCCCTGCTACAGGCCTGTCTGCCTGTCTGCTTTTCATCAGGTGGCTGGAAGAGTT
CACCTCCAGTACTCCAGGGATCAGAAAGGAGCCCCCTCACACCAGTATTTATCCTTAACACTCTTGACACCTTCT
GAAAGCCTTGCTCCTGCCAAGAGTACTGATGAGGTCTTAGATGCAAGCTGCTTGTTGGATGCTCTTAAGAAT
GTACAGATGGCAGATCTCATATTTGAAGAACAAGATGCTCACGAATTTATCCATGTCTATTACCTCGTCATTGGAA
GATGAGCGAGACCGCAGCCTCGGCTACACATTTGTTGATGTGCTATTCCTGGAGCAGCAGTCAGAAATAAC
TCCCAAACAAATTACCTGCCGCACAAGAGGTCACTCACCCACATCCAATCACTGGAAGTCTCAACATCCTTT
TCATGGAAGACTCACTAGTAATATGCTGTCAACACTGTGAACACCAGAGTCTCTGTTGATTGATACCTTTGAT
AGCCTTTCACTAAGTATTCAGCCGCACATGGGTCAACCAATTGACCCTGGACCAGTGCCTTCACTTCACTC
TCATCAGATCAGTGGGATGTTGTGTGACAACCTGTACAAGATTGAAGCCAGGGAACGTTGAACGGGGA
AAAGTGGAACACACAGAGGACCCTTTTGTAAACAGTTAAACTAGGGAAGTCCCTCAGTGTCTCTGCATCCA
CCTACAGCGGCTGAGCTGTCCAGCCACGACGCCCTCTGAAGCGCATGAGCACGTGCAGTTCAATGAGTTC
CTGATGATGGACATTTACAAGTACCACCTCCTTGACATAAACCTAGTCAACACAACCTAACTGAACAAGAAC
CCAGGGCCTACACTGGAGCTGCAGGATGGCCGGAGCCCCACACCAGTTCTGAATCAGCCAGGGGCCCCC
AAACACAGATTTTATGAATGGGCTGTCTCCCATCTTATTGCCAACGCTGTACGCCCGATGCCCTTCCCT
CTCCAGTTGTTCCGACTACAGCTCTCCACATACCTCTTCCGGCTGATGCGAGTTGCTGCCACCATGGAGA
CATGCACTCTGGACACTTTGTCACTTACCGACGTTCCACCTTCTGCCAGGAACCTCTCTCAACTAGCAATCA
GTGGCTGTGGTCTCCGATGACACTGTCCGCAAGGCCAGCTGCAGGAGTCTGTCTCCAGCGCCTACCTG
CTGTTCTACGAGCGCTCCTTCCAGGATGCAGCACCCAGAGCGAGTGCAAGTCTGAAGAATGA

FIG. 1U

>SGPR427_SEQID_18
ATGGACCTGGGCCCGGGACGGCAGGAGGGGACCGCTCGGCCCGCCCGCCCGCCCGCGCTCCCT
GCGCCGCTGTTACGCCGCTTCTGCTGGCGTGGGACCGCTACGCCCGCGGGACTCACCGCCCGGCC
CCAGCCGGACACTGTGATGGGACGTTGAGGGGCTTCGCTGCGCCCGCGGCCAGTTCAGCGGCCCC
CGGAGCCCGGGAGGAACGCCCGCCGACCCAGCCCAAGTCCAGCTCCCGCCCGCGATGGGGCG
GGCCGCCGGGCTCAGGGCTTGAAGAACCACGGCAACCTGTTTCATGAACGCGGTGGTGCAGTGTCTCAG
CAACACCGACCTGTGCGCGAGTTCTGCGCTGGGCGTACCGGGCGCTCCGGCGCGCGCGAGGTAC
CGAGCAGCTGGCGGCTGTGCGCGCTCTGACTCGGAAATACAGCCCCAACCTTCCGCGGAGTTCAAG
AATGCAGTTTCCAAAGTACGGCTCTCAGTTCCAAAGCAATTCAGCACGACGCCCTGGAATTCCTGCTGTTG
CTGGATCGTGATAGGACCTGGAGGTTTCATCCGAGGGCGGTGTCGGAGAGCTTCGCGCTGAAGCCA
CTAAACCTCTGAGAACTGCCTGTACCATCAGCTCAGCTTCTCTAGGTCAAGCTTTGTGCAAGCCACTTC
AAGCACAAATAGATCTTCCCTTGACTTGTCCCACTGCCTGAAACAGAGCAACACCTTTGATCCTTCTGTGT
GTCCTACCTATCCCCTTGCGCCAGACGAGGTTCTTGAGTGTACCTTGGTCTTCCCTCTAAGAGCCAGCGGT

TCCTGCGGTTGGCCTGGCCGTGCCGATCCTCAGCACAGTGGCAGCCCTGAGGAAGATGGTTGCAGAGGAAGG
 AGCGTCCCTGCAGATGAGGTGATCTTGGTTGAAGTATCCAGTGGATTCCAGCGGTCTTTCTTTGATGAAGA
 GGACCTGAATACCATCGCAGAGGAGATAATGTATGCCTTTCAAGTTCTCCTCCTCACCAGCCAGGGGACTC
 TCTCAGCTCATCCACTGGTCTGTGGCCTCCACGCCCTGGAGCCGTGAGGCCAGCGATTCTCCCTCTCT
 CTCCACAGTGAGAGCAAGGTGCTAATCCTCTTCTGTAACTTGGTGGGTGAGGCCAGCAGGCTAGCAGGTTTGG
 GCCACCCCTTCTGATAAGGGAAGACAGAGCTGTTTCTGGGCCAGCTCCAGCAGTCTATCCTCAGCAAGGTCC
 GCCATCTTATGAAGAGTGAGGCCCTGTACAGAACCTGGGTCTCTGTTCTCCATCCGTGTTGTGGACTCTCT
 GTGGCTGCAGCTATTTGTCTCCGAAGACAGTGGCCCTCTGTCACTGGCAGTTGACAGGGTTTTCATCT
 CAGGAGGCCAGGAGGCCCTCCACATGTCAAGCTGGCGTGGAGTGGATAGCTCTGTCAAGGAGCGCCTGTTT
 GGGAGCCTCCAGGAGGAGCGCAGGATGCCGACAGTGTGGCAGCAGCAGCAGCGCATCAGCAGCAC
 AGCTGTACCTTGATGAATGTTTTCAGTTCTACACCAAGGAGGAGCAGTGGCCAGGATGACGCCCTGGAAGTG
 TCCTCACTGCCAAGTCTGCAGCAGGGGATGGTGAAGCTGAGTTTGTGACGCTGCCCTGACATCCTCATCATCC
 ACCTCAAAAGGTTCTGCCAGGTGGCGAGAGAAACAGCTCTCCACGCTGGTGAAGTTTCCGCTCTCTGGA
 CTCAACATGGCTCCCATGTGGCCAGAGAACCCAGCCCTGAGGCAGGACTGGCCCTGGCCTTCTCTGGA
 AGCAGCCGGACTGCTGCCACAGTTACCCGCTGACTTCTGTACGACCTGTATGCCGTCTGCAACCAT
 GGCAACCTGCAAGGTGGCATTACACAGCCTACTGCCGAACTCTCTGATGGCCAGTGGTACAGTTATGATGA
 CAGCACGTTGAAACCGCTTCGAGAAGATGAGGTCAACACAGAGGGCTTATATCTGTTCTATCAGAAGCGGA
 ACAGCATCCCTCCCTGTCAGCCAGCAGTCCATGAGAGGCTTACCAGCTCTCCCTGTCTGATCACTGGCTC
 TTACGGCTCGGAGCCACGCTGCAGCACAAAGGGAAGCCTGTCTGCTGAGCTCTGCCCCCTGCCCTCCC
 TGCCCCAGGTTCTGACTCTCCCATCTTCCACACAGCCTCTGCAATCAGGAAAGGAGGTTGGAGCCAGG
 CGTTTGGTACGGGCGTGAAGGCAGAAAGCATTAGCATGAAGGCACCCACCCTCTCCGAGCCAGCAGGGAC
 CATTCAAGACCATGCCCTGCGGTGCTCTTGGATCCAGGAGAAACCCAGGTGCCCTCCGTCGAGTTGGTG
 GAGTACTTGGATCCAGACGAAGACCTCGGTCCACGAGCCAGTCCATTGTGCTGCTGTTGACGGCAGTGGG
 GTGAGGATGAGAAGTCAGCATCGCCGAGGTCCAACGTGCCCTTCTGCTAACAGCGAAGATGGTGGCGGGC
 CATTGAAGAGGTCCAGCGGGGTGCCCTGTCCCTCGGCTCAACCCCAACCACTGTCTGGCCCCGTGAAACTCA
 GATGTTCCAAACACAGCAAGGAACTCAAGGAAATGCAGGGCAGGACATCAAGCTTCCAGAAAGTTTGACCT
 GCCTCTACTGTGATGCCCTTCACTGAGCATGAGAAACAGCTCAGCGAGGGCCAGAAAGCCATGAACTGG
 AAGGAGAGCTTCCAGATGGGAAGCAAAAGCAGCCACCCCTCCCTATATGGGATTCTCTGGAACAGCAAGA
 CAGTGGCCGAGGCACCTCTGAGCTAGACAGACCCCTGCAGGGGACACTCACCTTCTGAGGTCCGTGTTTCGG
 AAGAGGAGAACAGGAGGAATGAGAGGGCAGAGTCTCTCCACAGGTGCCCTCCCTCTCCCTGGTGGTGCGG
 GGCTGAGCCCTGCCATGGACGGCAGGCTCCAGGCTCACCTCTGCTCCTCAGGATCCAGAGGGCCTGGCCA
 GGGGCTGGGCAGCCGGCTCGAGAGGGATGTCTGGTCAGCCCCCAGCTCTCTCCGCTCCCTCGTAAAGCCA

FIG. 1V

FIG. 1W

GCAGGGCCCGAGAGGCAGTGCACTGGGCATGTCACAAAGGACTGTTCCAGGGAGCAGGCTTCTTATGGCAC
CTTTCAGAGAGTCAAATATCACACTCTTCTTTAGGTGCGAAAGAAACCTTACCGGAGTCCAGCTTTTGA

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ATGCAGCTCGTCATCTTAAGAGTTACTATCTTCTGCCCCTGGTGTTCGCCGTTCCAGTGCCCCCTGCTGCAGAC
CATAAAGGATGGACTTTGTGAGGGCTATTTCCATCAATTTTCTGACCAAGAGGAGTCGCCACTCCTTACC
CAGAGACACAAACACAGCTCCTGCAACAATTCATCGGAATGGACAGACCTACTTGACATGCAGATGCATGC
TCTGTACACCAAGCCCCACTGTGGGTGCCTGATGGTCCGACACCTCCATCTCGCCAGGAAGATGCAAGTGG
AATAAGCACACTCTAACTTACAGGATTATCAATTACCCACATGATATGAAGCCATCCGCAAGTGAAGACAGTATAT
ATAATGCAGTTTCCATCTGGAGCAATGTACCCCTTTGATATTCAGCAAGTGCAGAATGGAGATGCAGACATCA
AGGTTTCTTCTGGCAGTGGCCCCATGAAGATGTTGGCCCTTTGATGGCCAGGTGGTATCTTAGGCCATGCC
TTTTTACCAAATTCTGGAAATCCTGGAGTTGTCCATTTTGACAAGAAATGAACACTGTCAGCTTCAGACACTGGAT
ATAATCTGTTCTGTTGCAACTCATGAGATTGGGCATTTCTTGGCCCTGCAGCACCTCTGGGAATCAGAGCTCCA
TAATGTACCCCACTTACTGTGATCACGACCCTAGAACCTTCCAGCTCAGTGCCGATGATATCCAAAGGATCCAGC
ATTTGTATGGAGAAATGTTTCATCTGACATACCTTAA

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ATGAAGGTGCTCCCTGCATCTGGCCTTGCTGTCTTCTCTCATGTGGCTTTGAAGTTTTCCACTGCAGCCCCCTCC
CTAGTTGCAGCTCCCCAGGACCTGGAGGAACAACACTACGCCCTCGCACAGGCGTATCTTGACAAATATTACAC
AATAAAGAGGACACCAAGATTGGTGAGATGTTGCAAGAGGAAGCAATTCATGATAAGGAAGATTAAAGGAGCT
ACAAGCGTTCTTTGGCCTCCAAGTCACCGGAAGTTAGACCAGACCACAATGAACGTGATCAAGAAGCCCTCGCT
GTGGAGTTCCTGATGTGGCCAAATTATCGCCTCTTCCCTGGTGAACCCAAATGGAAAAAATACTTTGACATACA
GAATATCTAAATACACACTTCCATGAGTTCTGTCGAGGTGGACAAAGCAGTGGAGATGGCCTTGCAAGGCTGG
AGTAGCGCCGTCCTCTGAGCTTTGTCAGAATAAACTCAGGAGAGCGGATATTATGATATCTTTTGAAAAATGGA
GATCACGGGGATTCTATCCATTCCATGGGCCTCGGGGACTCTAGCCCATGCATTTGCTCCTGGAGAAGGCCT
GGAGAGATACACATTCGACAAATCCTGAGAAGTGGACTATGGGAACGAATGGTTTAAATTTGTTTACCGTTGC
TGCTCATGAATTTGGCCATGCCCTGGCCCTGGCCCATTCACAGACCCATCAGCACTGATGTACCCAACTTATAA
GTACAAGAATCCCTATGATTCCACCTCCCCAAGATGATGTGAAAGGGATCCAGGCATTATACGGACCTCGGAA
AGTATTCTGGGAAGCCCCACTCTGCCCATGCCCCCATCACAAGCCATCCATCCCTGACCTCTGTGACTCCA
GCTCATCCTTTGACGCTGTGACAAATGCTGGGAAGGAGCTCCTGCTCTTCAAGGACCGGATTTTCTGGAGACGG
CAGGTTCACTTGGGACAGGAATTCGGCCAGCACTATTACAGCTCCTTCCCCCAGCTCATGTCCAATGTGGA
TGCAGCTTACGAAGTGGCTGAGAGGGGCACTGCTTACTTCTTCAAGGTCCCCCACTACTGGATAACAAGAGGAT

TCCAAATGCAAGTCCCTCGGACTATTTATGACTTTGGATTTCGAAGGCACGTGCAGCAAATAGATGCTGCTG
TCTACCTCAGGGAGCCACAGAAGACCCCTTTCTTTGTGGAGATGAATACTACAGCTACGACGAAAGGAAAGG
AAATGGAAAAGACTATCCAAAGAATACTGAAGAAGATTTTCAGGAGTAATGGCCAAATCGATGCTGCTGTA
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GTGTGTGAAATCTAGTTCTCTGGATTGGTTGCTAA

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ATGAACGTGCGCTGCAGGAGCTGGAGCTGGCAGCAACATGGTGGAGTACAAACGGGCCACGCTTCGGGATG
AAGACGCACCCGAGACCCCGTAGAGGGGGCCCTCCCGACGCCATGGAGGTGGATTCCAGAAGGGGA
CAAGACAGCTGTAGGCTACGCACGCAGCTGGAGCTGGTCTTAGCAGGTGCTCTACTGCTGCTGCTGCACTG
CTTCTGGGCTGCCCTTAGGGCTCAGTACCAAGAGACCCATCCACAGCACCTGCCTTACAGAGG
CCTGCAATTCGAGTGGCTGAAATCCTGGAGTCCCTGGACCGAGGGTGAGCCCTGTGAGGACTTTTACCA
GTTCTCCTGTGGGGCTGGATTCCGAGGAACCCCTGCCGATGGCGTTCTCGCTGGAACACCTTCAACAGC
CTCTGGGACCAAAACCAGGCCATCTGAAGCACCTGCTTGAACACCCACCTTCAACTCCAGCAGTGAAGCTGA
GCAGAACACACAGCGCTTCTACCTATCTTGCTACAGGTGAGCGCATTGAGGAGCTGGAGCCAGCCACTG
AGAGACCTCATTGAGAAATGGTGGTGAACATTACGGGGCCCTGGACCGAGCAACTTATGAGGTGTT
GAAGGCAGTAGCAGGACCTACAGGGCCACCCCATTTCCACGCTACATCAGTGTGACTGCTAAGAGTTCCA
ACAGCAATGTTATCCAGGTGACCAGTCTGGCTCTTTCTGCCCTCTCGGATTACTACTTAAACAGAACTGCCA
ATGAGAAAGTGTCACTGCCCTATCTGGATTACATGGAGGAAGTGGGATGCTGCTGGTGGGGCCACCTC
CACGAGGAGCAGATGCAGCAGGTGCTGGAGTTGGAGATACAGCTGGCCACATCACAGTGCCCCAGGACCCAG
CGCGCGACGAGGAGAAGATCTACCACAAGATGAGCATTTCCGAGCTGCAGGCTCTGGCGCCCTCCATGGACT
GGCTTGAGTTCCTGCTTTCTGCTGTCAACCATGGAGTTGAGTGACTCTGAGCCTGTGGTGGTATGGGATGG
ATTATTTGCAGCAGGTGCAGAGCTCATCAACCGCACGGAACCAAGCATCTGAACAATTACCTGATCTGGAACC
TGGTGCAAAAGACAACCTCAAGCCTGGACCGACGCTTTGAGTCTGCACAAGAGAAGCTGCTGGAGACCTCTAT
GGCACTAAGAAGTCTGTGTCGAGGTGGCAGACCTGCATCTCCAACACGGATGACGCCCTTGGCTTTGCTTT
GGGTCCCTCTTCTGTAAGGCCACGTTTGACCGGCAAGCAAGAAATTGCAGAGGGGATGATCAGCGAAATCC
GGACCGCATTTGAGGAGGCCCTGGACAGCTGTTTGGATGGATGAGAGACCCGCCAGGACGCCAAGGAGAA
AGCAGATGCCATCTATGATGATTGGTTTCCAGACTTTATCCTGGAGCCCAAAGAGCTGGATGATGTTTATGA
CGGGTACGAAATTTCTGAAGATTCTTTCTTCCAAAACATGTTGAATTTGTACAACTTCTCTGCCAAGGTTATGGCT
GACCAGCTCCGCAAGCCTCCAGCCGAGACCAAGTGGAGCATGACCCCCCAGACAGTGAATGCCCTACTACCTTC
CAACTAAGAATGAGATCGTCTTCCCGCTGGCATCTCGAGGCCCTTCTATGCCCGCAACCAACCCCAAGGCC
CTGAACCTCGGTGGCATCGGTGTGTCATGGGCCATGAGTTGACGCATGCCCTTTGATGACCAAGGGCGCGAGTA

TGACAAAGGAACCTCGGGCCCTGGTGGCAGAATGAGTCCCTGGCAGCCTTCCGGAAACACACGGCCTGC
 ATGGAGGAACAGTACAATCAATACCAGGTCAATGGGAGAGGCTCAACGGCCGCGACGCTGGGGAGAACAA
 TTGCTGACAAACGGGGCTGAAGCTGCCCTACAATGCTTACAAAGCATGGCTGAGAAAGCATGGGGAGGAGCA
 GCAACTGCCAGCCGTGGGCTACCAACACAGCTCTTCTTCTGCGGATTTGCCAGGTGTGCTCGGTC
 CGCACACAGAGAGCTCTACGAGGGGCTGTGACCGACCCACAGCCCTGCCCGCTTCCGCGTGTGGGC
 ACTCTCTCCAACTCCCGTGACTTCTCGGGCACTTCGGCTGCCCTGTGGCTCCCCCATGAACCCAGGGCAGCT
 GTGTGAGGTGTGGTAG

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ATGCCGGAGAGAGGCCCTTCGAGCGGCTGCCTGCCGATGTCTCCCCCATCAACTGCAGCCTTTGCCCTCAAGC
 CCGACTTGCTGGACTTCACCTTCGAGGGCAAGCTGGAGCCGCCGCCAGGTGAGCGAGCGACTAATCAGAT
 TGTGATGAATTGTGCTGATATTGATATTATTACAGCTTCATATGCACAGAGGAGATGAAGAAATACATGCTACA
 GGATTTAACTATCAGAAATGAAGATGAAAAGTCACCTTGCTTTCCCTAGTACTCTGCAACACAGGTACGGGAACCT
 TAAAGATAGATTTTGTGGAGAGCTGAATGACAAAATGAAAGTTTCTATAGAAGTAAGTATACTACCCCTTCTGG
 AGAGTGGCTATGCTGCTGTAAACACAGTTTGAGGCTACTGATGCCGGAAGGCTTTTCCCTTGTCTGGGATGAGC
 GTGCTATCAAAGCAACTTTTGATATCTCATTTGGTTGTTCCCTAAAGACAGAGTAGCTTTATCAAACATGAATGTAATT
 GACCGGAAACCATACCTGATGATGAAAATTTAGTGGAAGTGAAGTTGCCCGCACACCTGTTACATCTACATAT
 CTGGTGGCATTTGTTGGGTGAATATGACITTTGTAGAAACAAGGTCAAAGATGGTGTGTGTCTGTGTTTAC
 ACTCCTGTTGGCAAAGCAGAAACAAGGAAATTTGCATTAGAGTTGCTGCTAAACCTTGCCCTTTTATAACGACT
 ACTTCAATGTTCCCTTATCCTCTACCTAAAATTGATCTCATTTGCAGACTTTGCAGCTGGTGCCATGGAGAA
 CTGGGACCTTGTTACTTATAGGGAGACTGCATTGCTTATTGATCCAAAAAATTCCTGTTCTTCATCCCGCCAGTGG
 GTTGCTCTGTTGTGGACATGAACCTTGCCCATCAATGGTTTGGAAATCTTGTTACTATGGAATGGTGGACTCAT
 CTTTGGTTAAATGAAGTTTTCATCCTCGATTGAATATCTGTGTGTAGACCACTGCTTCCAGAGTATGATATTT
 GGACTCAGTTTGTCTGCTGATTACACCCGTGCCCAGGAGCTTGACGCCCTTAGATAACAGCCATCCTATTGAAG
 TCAGTGTGGGCCATCCATCTGAGGTTGATGAGATATTTGATGCTATATCATATAGCAAAGGTGCATCTGTCTATCC
 GAATGCTGCATGACTACATTGGGGATAAGGTAAAAAATACTTTAAGTATT

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ATCGGGCCCCCGGATTGCGCTGTGGCTGCGCCTGGTCTTGGCCCTGGCCCTTGTCGCCGCCCGGGCTGTG
 GGTGGGCCCGCGTCCGAGCCCCCATCTATGTACAGCAGCTGGGCCGTCCAGGTGTCCAGGGTAACCGGGAG
 GTCGAGCGCCTGGCACGCAAAATTCGGCTTCGTCAACCTGGGGCCGATCTTCCCTGACGGCAGTACTTTACCT
 CGGCACCGGGCGTGTCCAGCAGTCCCCTGACCCCGCACTGGGGCCACCACCTGCACCTGAAGAAAAACCC

FIG. 1Y

CAAGGTGAGTGGTTCAGCAGCAGACGCTGCAGCGCGGGTGAAACGCTCTGTGCTGTGCTGCCACGGACCC
 CTGGTTCTCAAGCAGTGGTACATGAACAGCGAGGCCCAACAGACCTGAGCATCCTGCAGGCCCTGGAGTCAG
 GGGCTGTAGGCCAGGCATCGTGTCTGTGTGACGATGGCATCGAGAGGACCAACCGGACCTCTGG
 GCCAACTACGACCCCTGGCCAGCTATGACTTCAATGACTACGACCCGACCCAGCCCGCTACACCCCA
 GCAAAGAACCGGACGGACCCGCTGTGTGGGAGGTGGCCGATGGCCACAAATGGCTTCTGTGGTG
 TGGGGTCTGCTTCAACGCCCGAATCGAGGCGTACGGATGCTGGACGTTACCATCACCGATGTCATCGAGGC
 CCAGTCGCTGAGCCTGAGCCGACGACATCCACATTTACAGCGCAGCTGGGTCCGAGGACGAGCCCG
 CACGGTGGACGGCCCGGATCCTCACCCGCGAGGCCCTCCGGCGTGTGTGACCAAGGCCGCGCGGGCT
 GGGACGCTCTTCACTGGGCTCGGGCAACGGCGCTGCATACGACAACTGCAACTGCGACGGCTACACC
 AACAGCATCCACACGCTTCCGTGGGACGACCAACCGAGGCCGCTGCCCTGGTACAGCGAAGCCTGCG
 CCTCACCCCTACCAACCTACAGCAGCGGCTGGCCACGACCCAGATGTCACACGACCTGCATCA
 CGGTGCACAGACGACACGGCACCTCGGCTCAGCCCTGCGGCGGCTGATGCGCCCTAGCGCT
 GGAGGCCAACCCGTTCTGACGTGGAGAGACATGCAGCACCTGGTGTCCGCGCTCCAAGCCGCGCACCT
 GCAGGCCGAGGACTGGAGACCAACGGCGTGGGCGCCAAAGTAGCCATCACTACGGATACGGGCTGCTGGA
 CGCCGGCTGCTGGTGACACCGCCCGACCTGGCTGCCACCCAGCCGAGGAAAGTGCGCCGTCGCGGT
 CCAGAGCCGCCCAACCCCTCTGCGCTGATCTACATCAGGAAACGATCGGCTGCGCCGCTCCAC
 AACTCATCCGCTGCTGGAGCACGTGCAGGCGCAGCTGACGCTGTCTACAGCCGCGCGGAGACCTGGAG
 ATCTCGCTCACGACCCCATGGCAGCGCTCCACACTGTGGCCATACGACCTTGACACTGAGCCTGGCCTA
 GCTACAACAACTGGTCTTCACTGTCCACCCACTTCTGGGATGAGAACCCACAGGGCGTGTGACCCCTGGCCTA
 GAGAACAGGGCTACTATTTCAACACGGGGACGTTGTACCGCTACACGCTGCTCTATGGGACGGCCGAGG
 ACATGACAGCGGCTACAGGCCCGCAGGTGACCAAGCGCGTGTGTCAGCGGGACACAGAGGGGCTGT
 GCCAGGCTGTAGCGCCCGCTACATCTGGACAGCTCTGCTGCGCTACTGCCCGCGGTTCTTCAA
 CCACACAGGCTGGTACCCTGGGCTGGGACACAGCGCGCCGCGCTGAGGGTCTGCTCCAGCTGCCA
 TGCCTCCTGTACACCTGCCGCGGGCTCCCGAGGACTGCACCTCCTGTCCCCCATCTCCACGCTGGAC
 CAGCAGAGGCTCCTGCATGGGACCCACACCCCGACAGCCCGCCGCTTAGAGCTGCCGCTGTCCC
 CACCACCGCTGCCAGCCTCGGCGCATGTGTGCTGAGCCTCCTGGCGCTGACCCCTCGGAGGCCCGCTCTGC
 GGCATGTCCATGGACCTCCCACTATACGCTGCTCTCCGCTGCCAGGGCCACCCCAACCCACAGGTCT
 GGCTGCCAGCTGGAACCTGA

>SGPR434_SEQID_24
 GGGCCGGCAGGAGGCTGGTGCAGGAGGCGTAGCACTGCTCTTCCCCTCCGCGCTCCCCTCAGGGCC
 AGCGGCCAGGACCCCGGAGCGGATGGGAGCCGCCACCTGTAGGGGCTCCAGGATCCCCAGCGGCC

CCCAGTCCAGGGGAACGCAGTGCAGCCCGCTTCGGTGTACTTCCCTCAGCCTGTGGCCAGCGGACTTCAAG
GATAACTGGAGGATTCCCGGCTCCAGACAGGAAGTGGCCCTGGCAGGTGAGCCTGCAGACCAGCAACAGACAC
ATCTGCGAGGCTCCCTTATCGCCAGACACTGGTTATAAGAGGACACAACTCCAGTTTGTGGTGGAGCCC
TGGTGTGCGAGGATTGGAAATGACCCGCTTGGCCCTGGAGGTGAGCCTCCGATGGAAATGAGCACG
TGTGTGAGGGGCTCATTTGACCCAGCTGGTGTGACTGCGGCCACTGCAGCCAAAGGCACCAAGAGTA
CTCAGTGGTGTGGACCTCCAGCTGCAGCCCATGAACCTCAGCAGGGCCCTCTGGTCCCTGTGAGGGAC
ATCATTATGACCCCAAGTACTGGGCGCGGCTTCCATCATGGTGAGCTTGGCCCTTGTCCACCTTCAACACCT
GTCACCTTCAGTGAGTACGTGCAGCCCATCTGCCCGAGCCCAATTTCAACCTGAAGTTGGACGCAGTG
TTGGTGACTGGCTGAGCCAGGTTAAGCAGGCTTTTCAGGCTCCACAGCCAACTCCATGCTGACCCAGAGC
TGCAGGAGGCTGAGGTGTTTATCATGGACAAAGAGGTGACCCGCTTACAGAACTTGTCTATGGGATTCTGG
GTTGTCCCTTGTCTGGGACATGATCTGTGCCACCAATTTATGGGAACTTGTCTATGGGATTCTGG
AGGCCATTGGCTTGTGAAGTTGAGGCGAGATGATCTGGCTGGGTGTTGTCTGGGAAAGGCTGCGTG
AAGGCACAGAAATCCAGGTGTACACCCGCTACCCAAATACACCAATGGATCAAGAGCAAAATGAGCAATGG
AGCCTTCTCAGGTCCCTGTGCCCTCTGCCCTCTGCTGTGCTGGCCGCTGCAGCCCCAGATGGGCTCCT
GA

FIG. 1A

>SGPR446_1_SEQID_25
ATCCTACCCAGTGTGGCCGAACCCCTCTGAGAACTCGTGGAGGAGTGGACCGGAGGAAGGGAGGTGG
CCCTGGCAGGTGAGCGTGAGGACCAAGGCAGGCACATCTCGCGGACCTGTGTCACCGCACGTGGTG
CTGACGGCAGGCTGCAATTCAGCCGTTTCCAGCTTACAGTGTCAAGATGGGAGATCGGAGTGTCTATAATGAA
AACACAAGTGTGCTCAGTCCAAAGAGCTTTGTCCACCTAAGTTCTCAACAGTTACAACCATTCGAAAT
GACCTTGCCTTCTCAGCTCCAACTCCTGTGAATTTTACCTCAACATCCAGCCTATCTGCATCCCTCAGGAG
AATTTCCAGGTGAAGGTAGGACCAAGTGTGGTGACCGGATGGGCAAAACACCAAGACGTGGAGAGAAC
TTGCATCAGAAATCTTCAGGATGTGGACCAATACATCATGTGCTATGAGGAATGTAATAAGATAATACAGAAAGC
CTTGTCATCTACTAAGGATGTAATAATAAAGGATGGTCTGTGGCTATAAAGAAACAGGAAGGATTCTTGTCAA
GGAGATTCTGGGGCGCTTGGCCTGTGAATATAATGACACATGGGTCCAGGTAGGATTGTGAGCTGGGGCA
TCGGCTGTGGTCGC

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ATGGCGCGCGCGGCGCTGCTGTGGCGCTGCTGGCTGGCTGGACTCGGGAAGCCGGAGGCCTG
CGGCCACCGGGAATTCACGCGCTGGTGGCGGCGGAGTGAGTCCGCGCGGCGCTGGCCATGGCAGG
CCAGCCTGCGCCTGAGGAGACGCCACCGATGTGGAGGGAGCCTGCTCAGCCGCGCTGGGTGCTCTCGGCTG

CGCACTGCTTCCAAAAGCACTACTATCCCTCCGAGTGGAAGGTCCAGCTGGCGAGCTGACTTCCAGGCCAACT
 CCTTGAACCTGCGGGCTACAGCAGTCGTTACAAGTGCAGGACATCATTTGTGAACCTTGACGCACTTGGGGT
 TTTACGCAATGACATTGCCCTGCTGAGACTGGCTCTTCTGTACCTACAATGCGTACATCCAGCCCAATTGCA
 CGAGTCTCCACCTCAACTTCGTGCAACCGCGGACTGCTGGTGACCGGTGGGGTTAATCAGCCCCAGT
 GGCACACCTCTGCCACCTCCTTACAACCTCCGGGAAGCACAGGTACCATCTTAAACAACACCAAGGTGTAATTAC
 CTGTTTGAACAGCCCTAGCCGTAGTATGATCTGGGATTCATGTTTGTGCTGCTGAGGATGCGAGTGTA
 GACACTGCAAAAGTGACTCAGGTGACCCCTTGTCTGTACAAGGATGGACTGTGTATCAGGTTGGAATCGT
 GAGCTGGGAATGACTGCGGTCAACCCCAATCGCCTGTGTCTACACCAACATCAGTGTGTACTTCCACTGGA
 TCCGGAGGGTGATGTCCACAGTACACCCAGGCCAAACCCCTCCAGCTGTTGCTGCTCCTTGCCCTGCTGTGG
 GCTCCC

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ATGGGCAGCACCTGGGGAGCCCTGGCTGGGTGCGGCTCGCTCTTTGCCCTGACGGGCTTAGTGCTCTCGCTCT
 ACGCGCTGCACGTGAAGGCGGGCGCGCCCGGACCGGGATTACCGCGCGCTCTGCGACGTGGGCAACCGCC
 ATCAGCTGTTGCGCGCTTCTCTCAGGTGGGCGAGGGTTTCGGGCTGTGTGAGCATGTGCTGGGACAGG
 ACAGCATCCTCAATCAATCCAACAGCATATTGCTGTCATCTTCTACACACTACAGTATTGTTAGTCTTCAAGC
 CGCTACGCTGCCCTGTGGACAGCTGGCCCGGCCCCCAAGCCTCAGGAGGCAACACAGTCCCTGGCGA
 GTGGCCCTGGCAGCCAGTGTAGGAGGCAAGAGCCCCACATCTGCAGCGGCTCCCTGGTGCGACACACCTG
 GTCTCACTGTGCCACTGCTTTGAAAGGCAGCAGCAACAGAACTGAATTCCTGTGTCAGTGGTCTCTGGGTT
 CTCTGCAGCGTGAGGACTCAGCCCTGGGGCCGAAGAGGTGGGGTGGCTGCCCTGCAGTTGCCCAGGGCCT
 ATAACCACTACAGCCAGGCTCAGACCTGGCCCTGCTGCAGCTCGCCCAACCCACGACCCACACACCCCTCTG
 CCTGCCCCAGCCGCCATCGCTTCCCTTTGGAGCCTCCTGTGGCCACTGGCTGGGATCAGGACACCACTG
 GATGCTCCTGGGACCTACGCAATCTGCGCTGCGTCTCATCAGTCGCCCCACATGTAACTGTATCTACAACCA
 GCTGCACCAAGCACACCTGTCCAACCCGGCCCGGCTGGGATGCTATGTGGGGCCCCCAGCCTGGGGTGCA
 GGGCCCTGTACGGGAGATCCGGGGGCCCTGTGCTGTGCCCTCAGCCTGACGGACACTGGGTTACGGCTGG
 CATCATCAGCTTTGCATCAAGCTGTGCCAGGAGGACGCTCCTGTGCTGTGCTGACCAACACAGCTGCTCACAGTT
 CCTGGCTGCAGGCTCGAGTTCAGGGGGCAGCTTCTGCCCCAGAGCCAGAGACCCCGGAGATGAGTGA
 GGACAGCTGTAGCCTGTGGATCCTTGAGGACAGCAGGTCCCAAGGACGAGCACCTCCCATGGCCCTGG
 GAGCCAGGCTGATGACCAAGGACAGCTGGCCTGTGGCGAGCCCTGGTGTGAGAGGCGGCTGCTAACT
 GCTGCCCACTGCTTATTGGGCGCCAGGCCCAAGAGGAATGGAGCGTAGGGCTGGGACCAAGACCCGGAGG
 TGGGGCCTGAAGCAGCTCATCTGCATGGAGCCTACACCCACCTGAGGGGGCTACGACATGGCCCTCCTGC
 TGCTGGCCAGCCTGTGACACTGGGAGCCAGCCTGCGGGCCCTCTGCTGCCCTATCCTGACCACCACTGCC

FIG. 1BB

TGATGGGAGCGTGGCTGGGTTCTGGACGGGCCCGCCAGGAGCATCAGCTCCCTCCAGACAGTGCC
CGTGACCCCTCTGGGGCTAGGGCTGCAGCCGGCTGCATGCAGCTCCTGGGGTGATGGCAGCCCTATTCTG
CCGGGATGTTGTACAGTGTGGTGAGCTGCCAGCTGTAGGGCTGTCTGGGGCACCACTGGTG
CATGAGGTAGGGGCACATGTTCTGGCCGGCTGCACAGCTTCGGAGATGCTTGCCAAAGCCCCGCCAGG
CCGGCGGCTTCACCGGCTCCCTGCCATAGGAGCTGGTCAGCAGTTTGAACTGGCAGGTCTACTTCGCCG
AGGAACCAAGAGCCCGAGGCTGAGCCTGGAAGCTGCCTGGCCAAACATAAGCCAAACCAACAGCTGCTGA

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ATGAGAGCTCCGACACCTCCACCCTCTCGCGCCGCTCTGGCGCCCGGCTCTGGCGAAGCTGCTGCCGCTGCTGA
TGCGCAACTCTGGCGCGCAGAGCGGCGCTGCTCCCCAAACGACACGCGCTTGACCCCGAAGCCCTATG
GCGCCCGTGC GCGCGCTCGCAGCCCTGGCAGTCTCGCTCTTCAACGGCTCTCGTTCCACTGCGCGG
GTGTCCTGTTGACACAGAGTTGGTGCTGACGGCCGCACTGCGGAACAAGCCACTGTGGGCTCGAGTAG
GGGATGACCACTGCTGCTTTCAGGGCGAGCAGCTCCGCCGGACGACTCGCTCTGTTGTCCATCCC AAGTAC
CACCAGGCTCAGGCCCATCTGCCAAGCGCAACGGATGAGCACGATCTCATGTTGCTAAAGCTGCCAGGC
CCGTAGTCCCGGGCCCCCGCTCCGGCCCTGCAGCTTCCCTACCGCTGTGCTCAGCCCGGAGACCAGTGCC
AGTTGCTGGCTGGGGCACCACGGCCCGCGGAGAGTGAAGTACAACAAGGGCTGACCTGCTCCAGCATCAC
TATCCTGAGCCCTAAGAGTGTGAGGTCTTACCCTGGCGTGTCAACCAACAATGATATGTGCTGGACTGG
ACCGGGCCAGGACCCCTTGCCAGAGTGACTCTGGAGGCCCCCTGCTGTGACGAGACCCCTCCAAGGCATCCT
CTCGTGGGGTGTTTACCCCTGTGGCTCTGCCCAGCATCCAGCTGTCTACACCCAGATCTGCAATACATGTCTT
GGATCAATAAGTCATACGCTCCAACCTGA

[illegible]

FIG. 1CC

AGAGGAAGACTGTGCTGGCAGGGAAGCCGTATAAGTATGAGCCAGACTCTGTGTACGCTTTGTCTCTCACCCC
TGGGCCATCCTGTTACTGTATTTTGTGATGCTTCTATTATCCT

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ATGGAAAATATGCTGCTTTGGTTGATATTTTACCCCCCTGGGTGGACCCCTCATTTGATGGATCTGAAATGGAATGG
GATTTTATGTGGCACTTGAGAAAGGTACCCCGGATTGTCAAGTGAAGGACTTTCCATCTCACAGCCCCGCATTT
GAGCAGATGCTAAGATGATGTAAATACAGTGTGGCATCGAATGCCAGAAAGAACTCCCAACTCCAGCCT
TTCTGAATTGGAGGATTATCTTTCCCTATGAGACTGTCTTTGAGAAATGGCACCCGAACTTAAACCAGGGTGAAAGTT
CAAGATTTGGTTCTTGAGCCGACTCAAAATATCACCAAAAGGGAGTATCTGTTAGGAGAAAGAGACAGGTGTAT
GGCACCAGACAGAGTTTCAAGCATCTTGACAAAAGGTTCTTAACCAATTTCCCTTTACGACACAGCTGTGAAGCTT
TCCACGGCTGTAGTGCAATTTCCCTCAGCATGTTCTAACTGCTGCCACTGTGTTTATGATGGAAG
GACTATGTCAAAGGGAGTAAAAGCTAAGGGTAGGGTTGTTGAAGATGAGGAATAAAGTGGAGGCAAGAAACG
TCGAGGTTCTAAGAGGAGCAGGAGAGAAAGCTAGTGGTGTGACCAAGAGAGGGTACCAGAGAGCATCTGCCG
GAGAGCGAAGGTTGGAGAGAGAAAGAAATCTGGCCGGGTGAGAGGATTGCCGAAGGGAGGCTTCCCT
TTCAGTGGACCCGGGTCAAGAAATACCCACATTCGGAAGGCTGGCACGAGGAGCATGGGGACGCTACCTT
GGACTATGACTATGCTCTTCTGGAGCTGAAGCGTGTCTACAAAAGAAATACATGGAACTTGGAATCAGCCCCAAC
GATCAAGAAATGCCTGGTGAATGATCCACTTCTCAGGATTTGATAACGATAGGGCTGATCAGTTGGTCTATCG
GTTTTGCAGTGTCCGACGAATCCAATGATCTCTTTACCAATACTGCGATGCTGAGTCGGGCTCCACCGGTTT
GGGGTCTATCTGCGTCTGAAAGATCCAGACAAAGAAATTGGAAGCGCAAAATCATTGCGTCTACTCAGGGC
ACCAGTGGGTGATGTCCACGGGTTTCAGAAAGGACTACAACGTTGCTGTTGCAATCACTCCCTAAATACGCC
CAGATTTGCCCTCTGGATTCACGGGAACGATGCCAATTGTGCTTACGGCTAA

FIG. 1DD

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ATGGGGACCCAGGAAGCGCAGAGTGGGTTGGGGAAGGGGATACCGGTGTCAGAAAGAAATTTATTAA
CAGTGGATGGGATAAGTCTGTGTCTGGAGGATCCTGGTGAGGCAGAAAGGTCCTGCCCTCACCTGGATTCTCT
CACTCCCTCCCCAGACTGCAGCCGAACCTGGTCCCTCCCTCCACAATGTGGCTTCTCCTCACTCTCTCCTCCTG
CTGGCATCCACAGCAGCCAGGATGGTGACAAAGTTGCTGGAAGGTGACAGTGTGCCACCCCACTCCAGCCAT
GGCAAGTGGCTCTACGAGCGTGGACGCTTAACTGTGGCGCTTCCCTCATCTCCCCACACTGGGTGCTGCT
GGGCCCCACTGCCAAAGCCGCTTCATGAGAGTGGCCTGGGAGAGCACACCTGCGCAAGCGCGATGGCCCA
GAGCAACTACGGACCACGCTCGGGTTCATTCCACACCCGCGCTACGAAGCGCGAGCCACCGCAACGACATCA
TGTGTCTGCGCCTAGTCCAGCCCGCACGCTGAACCCCAAGGTGCGCCCCGCGGTGCTACCCACGCGTTGCC
CCACCCGGGGAGGCCTGTGTGTCTGGCTGGGCGCTGGTGTCCCACAAACGAGCCTGGGACCGCTGGGAG

CCCCCGGTCAAGTGAGTCTCCAGATACGTTGCAATTGTGCCAACATCAGCATTATCTCGGACACATCTTGTGA
CAAGAGTACCCAGGGCCCTGACAAACACCATGGTGTGTCAGGCGGAGGCGAGGCAGAAATCCTG
TGAGGGTGACTCTGGGGACCCCTGCTGTGGGGCATCCTGCAGGGCATTGTCTCTGGGTGACGTCCCT
TGTGACAACACCAACCAAGCCTGGTGTCTATACCAAGTCTGCCACTACTTGGAGTGGATCAGGGAAACCATGAA
GAGGAACCTGA

>SGPR396_SEQID_32
ATGGGCCCTGCTGGCTGTGCCTTCAAGCTGCTCCTTCTGCTGGGATCTCAGTGTGTGGCAACCTGTATACTC
CAGCCGCGTTGTAGTGGCCAGGATGCTGCTGCAGGGCGCTGGCCTTGGCAGGTGAGCTACACTTTGACCAC
AACTTTATCTGTGAGGTTCCCTGTCAGTGAGAGTTGATACTGACAGCAGCACACTGCATACAACCGACCTG
GACTACTTTTTCATATACTGTGTGGCTAGGATCGATTACAGTAGTGACTCAAGGAAACGTGTGAAGTACTACGT
GTCCAAAATCGTCATCCATCCCAAGTACCAAGATACAACGGCAGACGTGCGCTTGTGAAACTGTCTCTCAAGT
CACCTTCACCTTCTGCCATCCTGCCATTGTGTTGCCAGTGCACAAAGCAGTTGGCAATTCACCCCTTTTGTGG
GTGACCGGATGGGAAAGTTAAGGAAAGTTCAGATAGAGATTACCAATTCGCCCTTCAGGAAGCAGAAGTACC
CATTATTGACCGCCAGGCTTGTGAACAGCTCTACAATCCCATCGGTATCTTCTGCCAGCACTGGAGCCAGTCAT
CAAGGAAGACAAGATTTGTGCTGGTGATCTCAAAACATGAAGGATAGTTGCAAGGGTGATTCTGGAGGGCCTC
TGTCGTGCACATTGATGGTGATGGATCCAGACAGGAGTAGTAAGCTGGGATTAGAATGTGGTAAATCTCTTC
CTGGAGCTACACCAATGTAATCTACTACCAAAATGGATTAAATGCCACTATTTCAAGAGCCCAACTCTAGACTT
CTCTGACTTCTTGTCCCTATTGTCCCTACTCTCTCTGGCTCTCCTGCGTCCCTCTCTGTGGACCTAACACT
ATACACAGAGTAGGCACCTGAGCTGAAGCTGTTGCTTGCCATACAGGGCTGGGAAGAGAAATGCATGGAGATTTAG
TCCCAGGGGCAGATAA

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FIG. 1EE

ATGGTGCTCAGCAGCTCACTGCTTTTGGAAAAATAAGACCCAACTCAATGGATTGCTACTTTTGGTGCAAC
TATAACACCCCGCAGTGAACGAAATGTGAGGAAATATTCTTCATGAGAAATTACCATAGAGAAACAATGAA
AATGACATTGCTTTGGTTCACTCTCTACTGGAGTTGAGTTTCAATATAGTCCAGAGAGTTGCTCCAGACT
CATCTATAAGTTGCCACCTAAACAAGTGTTCGTACAGGATTTGGATCCATTGTAGATGATGGACCTATACA
AAATACACTTCGGCAAGCCAGAGTGGAACCATAGCACTGATGTGTACAGAAAGGATGTGTATGATGGCCT
GATAACTCCAGGAATGTTATGTCTGGATTCTGGAAGGAAAAATAGATGCATGTAAGGGAGATTCTGGTGGACC
TCTGGTTTATGATAATCATGACATCTGGTACATTGTAGGTATAGTAAAGTTGGGACAAATCATGTGCACCTCCCAA
AAACCTGGAGTCTACACCAGAGTAACCTAAGTATCGAGATTGGATTGCCTCAAAGACTGGTATGTAG

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AGAATAGCAGAGGGTCTGATGCTGAGGAAGGAGAAATGGCCCTGGCAAGCTAGCCTCCACAGAACAAATGTCTA
CCGACGGGAGCCACATGGCTTAGTAACAGCTGGCTTATCACTGCTCACTGCTTCAATAAGGTCCATGATC
CCAAAGAAATGGAATGTTATTTAAGTAACCCACAACACAGTCAAATATCAAGAATGTTATAATTCAAGAAACTAC
CATTACCCTGCACACGATAATGACATTGCTGTTGTGCATCTATCTTACCAGTGTATATACAAGCAACATCCAAA
AAGCATGTCTTCCAGATGTTAATTATATATTCCTATACAAATTCAGAAAGCAGTGGTTACTGCATGGGATCATTTAA
CCTTTACGAACAACCTTCTAATGTACTCCACAAGGATTAGTGAAGATTATAGATAATAGGACCTGCAACAATGGG
GAGGCAGATGGCAGAGTCATCACATCTGGAATGTTGTGCCGGTTCCTGGAGCCACGTGTGGATGCCTGCC
AGGGTGACTCTGGTGACCACTGGTTGGTACAGATTCTAAAGGCATCCTTGCTAAAGGTTCCCTGCTGCTATTGA
AAGCTGGAGTAAATGAACGTGCTCTTCCAAACAAGCCTAGTGTCTACACTCAAGTGACATACTAT

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ATGGTCAGCAAGGGGGAGTTGCTGCAGAGCCAGAGCCACACTATTGTGAGGACAGTGAAGAGGCCCCAACA
CCCTCACAGGTCCGGGCAGCCTTCCTAGAGAGGTGGCATTGAGTGGCATGGAGTTCCGGGATGCAGCGG
TGAAGGTGCGTGAAGCCCATGAGGAGCGGCCCGGGAGGGCGGCAGAGGCAAGAGGCTGTGCCGG
GACCCAAAGCAGCGCAGGGGTGAGGAGGAGGGGCTGCGGCGGGTGGACGCTGGAGCAGGAGACCAGG
GGAGATGTCTTAGAGGATAAAAATGAGCGGGCAGATGAAGAGATACTCAGGCTGGCACCAGGAAAGGCAGGC
TCCCAATAGACAGCAACACCTGAACCCGGTGATCAGCAGCTTCCCGTAAGATCTCAGGAGCTGGCGAGGG
GGCTGGAGCAGCACACTAAGAGGCAAAATGGCAGAGTTAACTGGTCTATGGCCTTCAAGGACCTGCGGCT
GGTCATGAAGAGCGCCTCAACTCTGTGTCCAGCAGGGCCCAAGAGGCAATTGGCTGGATGTCGCTGCTGCTT
CTCTTCGTGTTGACCAATTTCTCAGACCTCCCGCCCTGCAAGTCAAGGAGGAGTTGGAGGCTTGCGC
GTTTAGAGTGAGGTGGGCAGCTGAGGCTCTATGAGGACGACCAAGGACGAGGTTGAGATCGTCCGT
CACCCCAAGTACAACGAGAGCCTGTCTGCCAGGGCGGTGCGGACATCGCCCTGCTGAAGCTGGAGGCCCG

FIG. 1FF

FIG. 1GG

GTGCCGCTGCTGAGCTCATCCACCCGGTCTCGCTCCCGTCTGCCCTCCCTGGACGTGCCCTCGGGGAAGACCTT
GCTGGTGACCGGCTGGGTGTCAATTGGACGTGGAGAACTACTGCCCTGGCCCTCAGCTTGTGGAGGCGGAC
GGTGAAGTCAAGAGCAACGTCTGTAAACAGACCTGTCCGCCCGCTTCTTCCAACCACTGAGCGGT
TTGAGCGGCTCATCAAGGACGACATGCTGTGCCGGGACGGAAACACGGCTCTGGCCAGGCGACAACG
GGGGCCCCCTCTGTGCAGGCGGAATTGCACCTGGGTCCAGGTGGAGGTGGTGAGCTGGGCAAACTCTGCG
GCCTTCGGGGTATCCCGGCATGTACACCCGCTGACGAGCTACGTGTCTTGATCCGCCAGCCATGCCCTC
AGCTCAGACCCCTGCTGTGTCGGAATTTGTGTCCCCCAATCCAGATGTTGAAGCCCTAACTCCCAGTG
TGATGGGATCAGGAGCGCCGCTGCCCGCCGACCTGCAAGAGCCGAGTCCCCATCATGAGGACCC
GAGCTTCGAGAGGATGTATCACAAGGCCCACTGCCACGGCCAGGTCAACCATCATCAAGGCTGCCATGCC
GTGTGAGGAGGAAGGGCAGGTTCTGCCAGGCCGCTTGAGGACGGAGACCTCACCCCAACCAACAC
CAACACGAGGTCTCCACGTGCAGACCCAGGCTGAGCCAGCGGAGACATCTGGCCAGAGTGGCTTG
GCCAGTTGTGTGGCACCAACCATGCTGCTGCTGTTCTCGCTGCTCCTGCCCTGGGAGCTGTAGC
ACTGGAGTCCAGTCCCGTCCCGAGAATGACCTGGTGGCATTGTGGGGGCCACAACACCCAGGGGAA
GTGTCGTGGCAGTGGTGTACCGCCGCTCACTGCATTTCCGGAAGACACCGACCCGTCACCTACCCG
ATTCAACACGAGGATGTATCTGACGGGGCCGGGCTGCTGAATGTACGCCAGATCGTCGTCACCCAA
CTACTCTGCTTCTTCCGGGGCAGACATCGCCCTGCTGAAGCTGGCCACCAAGTTCCCTGGAGTTCACTGACA
GTGACAACTGCTGGAACACAGGCTGGGCATGTCGGCTTGTGGATATGCTGCCGCTCCTTACCGCCCGCA
GCAGGTGAAGTCTCACACTGAGCAATGCAGACTGTAGCGGCAGACCTACGATGCTTTCTGCTGCTGGAG
ACAGAAAGTTTATCCAGGATGACATGATCTGTCCGGCCGACGGCCCGCACCTGGAAGGTGACTCAGG
CGGCCCTGGTCTGCAAGAAGGTTACCTGGCTCCAGCGGGAGTAGTGAGCTGGGATTTACAGTGAT
CGGGCCAGCATTGCGCTACACACGCCCCAGACCAAGCTGGCAGGTGCCAACCATGCAGACGCCCAGAGAC
CAGCTGGCAGGTGCCAACCATGCAGAGGCCCAGAGACATGGGCCAGGCCAGGAGTGGTCTGCAGGCCCT
TCACCCACGTACCTGCTACCCGACGGCCATCCCGAGCCCTTCAACCCATGTACCTGTACCTGATGGCTGC
CCAGCACCCCTACCCACGTACCTGCTACCCGACGGCCGTCCCGAGGCCCTTCAACCATGTACCTGTACCT
GATGGCTGTCCCGACCCCTCACCCACATCACCTGTACATGATGGCCGTCCCGAGGCCCTTACCCACATCA
CCTGTACCCAAATGCTGTCCCGACCACTTACCCACGTACCTGCCACCCGACGGCCATCCCCAGGCCCTTC
ACCCACATCACCTGTACACGATGGCCATCCCGAGGCTTCAACCAACGCCCTGCTACACGACGGCCATCCCC
AGCACCCCTACCCACGTACCTGTCTACACGATGGCCGTCCCGAGGCCCATCACCCATGTACCTGTACACGAT
AG

FIG. 1HH

>SGPR485_1_SEQID_36
ATGCTCCTGTTCTCAGTGTGCTGCTCCTGCTCAGGAACTCAGCTCGGTCCACGGACTCCTCTCCTCC
AGAGGCTGGAGTGGCTATCCTAGGCAGGGCTAGGGAGCCACCGCCCTCAGCCCCCTCATCCCCCAGCCC
AGTCAGTGAATGTGTGACAGATCTATTTTCGAGGGAAGAACTCGGTATTCAGAAATCACAGGGGGATGGAGG
CGGAGGTGGTGAGTTCCGTGGCAGGTGAGTATTCAGGTAAGAACTGAACCTTTCTGTGGCGCTCCATCCTC
AACAAAGTGTGGATTCTCACTCGGCTCACTGCTTATATTCGAGGAGCTGTTCCAGAAAGAACTGAGTGTCTGTG
CTGGGGACCAACGACTTAACTAGCCCATCCATGAAATAAAGGAGGTGCCAGCATCATTTCTTCACAAAGACTTT
AAGAGAGCCAACATGGACAAATGACATTGCCTTGCTGCTGCTGGCTTCGCCCATCAAGCTCGATGACCTGAAGGT
GCCCATCTGCCCTCCCACGACGCCGCCCTGCCACATGGCGCAATGCTGGTGCCAGGTTGGGGCCAGAC
CAATGCTGCTGACAAAACCTCTGTGAAAACGGATCTGATGAAAGCGCCAATGTCATCATGGACTGGAGGAGT
GTTCAAAGATGTTCCAAAACTTACCAAAAATATGCTGTGTCGGGATACAAGAATGAGAGCTATGATGCCCTGCA
AGGTTGACAGTGGGGCCCTCTGCTGCACCCAGAGCCCTGTTGAGAAAGTGTACCAAGTGGTGGGCATCATCAG
CTGGGGAAGAGCTGTGGAGAGAAGAACACCCAGGGATATACACCTCGTTGTTGTAACCTACAACTCTGGATCG
AGAAAGTGACCCAGCTAGAGGGCAGGCCCTTCAATGCAGAGAAAGGAGGACTTCTGTCAAACAGAAACCTATG
GGCTCCCCAGTCTCGGGAGTCCCAGAGCCAGGCCAGATCCTGGCTCCTGCTCTGTCCCCTGTCCCCTG
TGTGTTTCAGAGCTATTTGTACTGA

>SGPR534_SEQID_37
ATGGCTTCCTCTGGCTCCTCTCCTGCTTCTCCCTTGTGGGGCCGCCCTTTGGCTGCGGGGTCCCCGCCATCCA
CCCTGTGCTCAGCGGCTGTCCAGGATCGTGAATGGGAGACGCCGTCCCCGGCTCCTGGCCCTGGCAGGT
GTCCCTGCAGGACAAAACCGGCTTCCACTTCTCGGGGGCTCCCTCATACGCGAGGACTGGGTGGTCACCGCT
GCCCACTCGGGGTACGACCTCCGACGTGTCGTGGCTGGGAGTTTGACCAGGGCTCTGACGAGGAGAAC
ATCCAGGTCCTGAAGATCGCCAAGTCTTCAAGAACCCCAAGTTCAGCATTCTGACCCTGAACAATGACATCACCC
CTGCTGAAGCTGGCCACACCTGCCCGCTTCTCCAGACAGTGTCCGCCGTGTGCCCTGCCACGCCGACGACG
ACTTCCCGCGGGACACTGTGTGCCACACAGGCTGGGCAAGACCAAGTACAACGCCAACAAAGACCCCTGA
CAAGCTGCAGCAGCAGCCCTGCCCTCCTGTCCAATGCCGAATGCAAGAAAGTCTCTGGGCAAGGATCACCC
GACGTGATGATCTGTGCCGGGCCAGTGGCGTCTCCTCTGATGGTGACTCTGGAGGCCCTGGTCTGCC
AGAAAGCAGGAGCCTGGACCTGGTGGCATTGTCTCTGGGCGAGCCGCACTGCTCTACCAACACGCCCG
CTGTGTACGCCCGTGTACCAAGCTCATACCTGGGTGCAGAAAGATCCTGGCCGCCAACTGA

>SGPR390_SEQID_38
 ATGGAGCCCACTGTGGCTGACGTACACCTCGTGTCCAGGACACCAAGAAAGTCCCCGCTCTGGATGCCGCGT
 GCTGTGAGCGGCGAGCATTTGGCGTGGTGCCACAGCCTTGTGCTCTCACCTGGAGTCTTTTGGGAGG
 AATGAACAACCTCCAGACACGCTGCCCTTAAGAGCTGCAACACTCCCTGGGAAGGTCTACAGCGTCACTCCTGAAG
 CAAGCAAGACCAACCAACCAAGAAATTCGAACACATCCGAACATCAGCAAGAAACAACCTCCGGA
 CACACCATCTTTAAGAAATGTAACACTCAGCCCTTCTCTACACAGGCTTCCACGTGGACCAACAGCGCGAG
 CTGCGGGGAATCCGGTGGACCAAGCTTTCGCGGGAGACCTCGGACTATCACCGCACGCTGACGCCCCACC
 CTGGAGGCACCTGCTGCACCTTCTGCTGACCCCTCCAGACGCTGAGCCTGGCCTGGAGGAGGAGCTATTGC
 AGCGAGGGATCCGGCAAGGCTCGGGAGCACGGCATCTCCCTGGCTGCCATGGCACAAATTTGTCTGGCTGA
 GCTCACAGGGAGACATAAGGGACCTTTGGCAGAAAGAGACTTCAATCAGCCGCTGTCCAGGAACTCCTTTT
 CCTGCGGGAACAGCCAGTGTGTACCAAGGTGAACCCGGAGTGTGACGACGAGGAGTCTCCGATGGGTC
 CGACGAGCGCACTGCGAGTGTGGCTTGACGCTGCCCTGGAGGATGGCCGGCAGGATCGTGGCGGCATGGA
 AGCATCCCCGGGGAGTTCCGTGGCAAGCCAGCCTTCGAGAGAACAGGAGCACTTCTGTGGGGCGCCCATC
 ATCAAGCCAGGTGGTGTCTGCTGCTCACTGCTTCAATGAGTTCCAGACCCGACGAAGTGGTGGCCTA
 CGTGGTGCACCTACCTCAGCGGCTCGGAGGCCAGCACCGTGGGGCCCAAGTGTCCAGATCGTCAAGCA
 CCCCCTGTACAACGCGGACACGGCCGACTTTGACGTGGTGTGCTGGAGCTGACCAAGCCCTCTGCCCTTCGGC
 CGGCACATCCAGCCGCTGTGCTCCCGCTGCCACACACATCTCCACCCAGCAAGAGTGCCTGATCTCAG
 GCTGGGGTACCTCAAGGAGGACTTCCGTAAAGCATCTTCTCGCCTGCAATGTGTCAAGCCAGAGTGTGCA
 GAAAGCCACTGTGGAGCTGTGGACCAAGGCACTGTGTGCCAGCTTGACGGCCATTCACTCACTGACAGGATG
 GTGTGCGCTGGCTACCTGGACGGGAAGGTGGACTCTGCCAGGGTGAATCAGGAGGACCCCTGGTCTGCGAG
 GAGCCCTCTGGCCGTTCTTTCTGGCTGGCATCGTGAGCTGGGAATCGGGTGTGCGGAAGCCCGGCTCCAG
 GGTCTATGCCCCAGTCAACAGGCTACGTGACTGGATCCTGGAGGCCACCAAGCCAGCATGCCCTCTGGC
 CCCACCATGGCTCCTGCCCTGCCGCCCCAGCACAGCCTGGCCACCAAGTCTGAGAGCCCTGTGGTCCAGC
 ACCCCACCAATCGATGCAGGCCCTCAGTACCGTGCCTCTTGACTGGGTACCGTTCCTAAGCTACAAGAAATG
 TGGGGCCAGGCGTCAATGGAGAAGCCACCCGGTCTGTGGCGGGTTCGGAGCTGCCTCCGGGAGGTGC
 CCTGGCAGGTGAGCTGAAGGAAGGTCCCGGCACTTCTGCGGAGCAACTGTGTGGGGACCCGCTGGCTGC
 TGTCTGCCGCCCACTGCTTCAACCAACAGAGGTGGAGCAGTTCCGGGCCCACTGGGCACTGCGTCCCTCCT
 GGGCTGGGGGAGCCCGTGAAGATCGGGCTGGCGGGTAGTGTGCTGACCCCTCTACACCCCTGGCAT
 CCTGGACTTCGACCTGGCTGTCTGGAGCTGGCCAGCCCCCTGGCCTTCAACAAATACATCCAGCCTGTCTGCC
 TGCCCCCTGGCCATCCAGAAAGTTCCCTGTGGGCCGGAAGTGCATGATCTCCGGATGGGAAATACGCAGGAAGG
 AAATGCCACCAAGCCCGAGCTCCTGCAGAAGGCGTCCGTGGGCATCATAGACCAGAAACCTGTAGTGTGCTCT

FIG. 1

ACAAATTCTCCCTCACAGACCGCATGATCTGCGCAGGCTTCTGGAAGGCAAAAGTCGACTCCTGCCAGGGTGAC
 TCTGGGGCCCCCTGGCCTCGAGAGGCCCTGGCGTGTATCTGGCAGGATCGTAGCTGGGGTATTG
 GCTGCGCTCAGGTTAAGAAGCCGGCGTTACACGCGCATCACAGGCTAAAGGGCTGGATCCTGGAGATCAT
 GTCTCCAGCCCCCTCCCATGTCTCCCCCTCGACCAAGGATGTGCGCCACCAAGCCAGCCCGGAGGACACA
 GCTGGCTCACAGTCCGGGGCCACACCCAGACCCACCCCTGGGCTGCCAGCAGGTGACGGGCCAA
 CCTGCCAACTCAACCTTATCTGCCGTGAGCACCACTGCTAGGGACAGACGCCATTTCCAGACGCCCGGAGG
 CCACACACACCCAGCTACCAAGCTGTGGCTGGCGCCGCGCTCACAGGATTTGGCGGCGAGCG
 CAGCGGCCGTGGGAGTGGCGGTGCAGGTGAGCCTGTGGTGGCGGCCGCGGAACACCCGTTGGGGGCC
 GTGCTGGTGACAGAGGTGGCTGCTGCGCGGCGCACTGCTTCGACGTCTACGGGACCCCAAGCAGTGG
 GCGGCCCTCCTAGGCACGCCGTTCTGAGCGCGCGGAGGGGCGAGCTGGAGCGCTGGCGCGCATCTACAAG
 CACCCGTTCTACAATCTACACGCTCGACTACGACGTGGCGCTGCTGGAGCTGGCGGGCGCGTGGTCCGCA
 GCCGCTGGTGCTCCCATCTGCTGCCGAGCCCGCGCCGACCCCGGACGCGCACGCGCTGCGTCAATCA
 CCGGCTGGGCTCGGTGCGCAAGGAGGCTCCATGGCGCGCAGCTGCAGAGCGCGCGTGGCGCTCCTC
 AGCAGCAGACCTGCCGCGCTTCTACCCAGTGCAGATCAGCAGCCGCGCATGCTGTGTCGGCTTCCCGCAGG
 GTGGCGTGACAGCTGCTGGGTACGCTGGGGACCCCTGGCCTGCAGGGAGCCCTCTGGACGGTGGGTGC
 TAACTGGGTCACTAGCTGGGCTATGGCTGTGGCGGCCCACTTCCAGGTGTCTATACCCGGGTGGCAGC
 TGTGAGAGGCTGGATAGGACAGCACATCCAGGAGTGA

>SGPR521_SEQID_39

ATGGCAAGATCCCTTCTCCTGCCCTGCAGATCCTACTGCTATCCTTAGCCTTGAAACTGCAGGAGAAGC
 CCAGGGTGACAAGATTATTGATGGCGCCCATGTGCAAGAGGCTCCACCCATGCGAGGTGGCCCTGCTCAGT
 GGCAATCAGCTCCACTGCGAGGCGTCTGGTCAATGAGCGCTGGGTGCTCACTGCCGCCACTGCAAGATGA
 ATGAGTACACCGTGACCTGGCAGTGATACGCTGGCGACAGGAGAGCTCAGAGGATCAAGGCCCTCGAAGTC
 ATTCGCCACCCCGCTACTCCACACAGACCCATGTTAATGACCTCATGCTCGTGAAGCTCAATAGCCAGGCCA
 GGCTGTATCCATGTTGAAGAAAGTCAGGCTGCCCTCCCGCTGCGAACCCCTGGAACCCACTGTACTGTCTCC
 GGCTGGGGCACTACCACGAGCCAGATGTGACCTTTCCTCTGACCTCATGTGCGTGATGTCAAGCTCATCTC
 CCCCAGACTGCACGAAGTTTACAAGGACTTACTGGAATTCATGCTGTGCGTGGCATCCCCGACTCCA
 AGAAAACGCCCTGCAATGTTGACTCAGGGGACCGTTGGTGTGACAGAGTACCCCTGCAAGGTCTGTGCTCTG
 GGGAACTTTCCTTGGCGCCAAACCAATGACCCAGGAGTCTACACTCAAGTGTGCAAGTTCACCAAGTGGATAA
 ATGACACCATGAAAAAGCATCGCTAA

FIG. 1J

>SGPR530_1_SEQID_40
 GTCTCCACAGTGTGTGGGAAGCCTAAGTGGTGGGAAGATCTATGGTGGCCGGGACGCAGCAGCTGGCCAGT
 GGCCATGGCAGGCCAGCTGCTCTACTGGGGCTGCACCTCTGTGGAGCTGTCTCATCGACTCCTGCTGGCT
 GGTATCAACTACCCACTGCTTTCTCAACAATCCAGCCCCGAAGAATATCAGGTTCTGTGGGAAACATCCA
 ACTGTATCATCAAAACCCAGCACACCCAGAAGATGTCTGTGCACCGGATCATCACCCATCCAGACTTTGAGAAAGCT
 CCACCCCTTTGGAGTGACATTGCCATGTTGCAGCTGCACCTGCCATGAACCTTCACTTCTACATTGTCCCTGT
 CTGCCCTCCCATCCGGACATGCAGCTGCCCAGTAACGTCTCTGTTGGATAAACCGCTGGGGAATGCTCACCC
 GAAGACCATAAAGAGGTGCAACTGTCAACACCTTCTATCTCCAGGAGGCAAGGTGGCCCTCATTTGAGAACAC
 ACTCTGTAATACCTTATATGGCAAGAACTGCAAGGCGAGACCTAAGCTTTGCAGGAGGAGATGCTGTGTGG
 GGGGTACTTCTCGACAGGAAAGTCCATCTGCAAGGCGATTCTGGGGGCTCTAGTCTGTACTCCTCCCCAGT
 GCCTGGTCTGTGGGGCTGGCCAGCTGGGGCTGGAATGCGGCACTCTGCCTACCCAGCATCTTCAACCA
 GGGTCACTACTTCATCAACTGATTGACGAAATCATGAGGCTCACTCCTCTTTCTGACCCCGCGCTGGCTCCTC
 AC

FIG. 1KK

>SGPR520_SEQID_41
 ATGCTGCTGGTGTGCTGCTGCTACCCCTCCCAAGCTCATGTTTGCCACGGGCACCCACTGTACACACG
 CCTGCCCCCCAGCGCCCTGCAAGTCTTCACTCTCCTCTTGGGGCAGAGACTGTGTGGCCGCAACCTAGACT
 ACGTTTGTGAAGGCCGTGCGGAGAGCGCTCCGAGCACTGCCAATGTACGCGGGCCACGCGCCATCG
 TGGGGGCAGCGCGCGCCCGGGCTGGCCCTGGCTGTTGAGGCTGCAGCTCGCGGGCAGCCTCTG
 TCGCGCGCGCTCCTGGTAGCGGCTCCTGGGTGCTCACGGCAGCGCACTGCTTTGTAGGCTGCCGCTCGACC
 CGCAGCGCCCCGAATGAGCTTCTGTGAGCTGTACGCTGGCAGAGGGTCCCCGGGGGAGCAAGCGGAGGAG
 GTGCCAGTGAACCGCATCCTGCCCCACCCCAAGTTTGACCCGCGGACCTTCCACAACGACCTGGCCCTGGTGC
 AGCTGTGGACGCCGCTAGCCCGGGGGATCGCGCGCCCGGTGTGCTGCCCAGGAGCCCGAGGAGCCC
 CCTGCCGGAACCGCTGCGCCATCGCGGCTGGGGCGCCCTTTCGAAGACGGCCCTGAGGCTGAAGCAGTG
 AGAGAGGCCCGTGTCCCTGCTCAGCACCGACACCTGCCGAAGAGCCCTGGGGCCCGGGCTGCGCCCCAGC
 ACCATGCTCTGCCCGGGTACCTGGCGGGGGCGTTGACTGTGCCAGGTTACTCGGAGGCCCTGACC
 TGTCTGAGCCTGGCCCCCGCCCTAGAGAGTCTGTTCCGAGTCACCTCCTGGGGGACGGCTGCGGGGAG
 CCAGGGAAGCCCCGGGTCTACACCCGCGTGGCAGTGTTCAGGACTGGCTCCAGGAGCAGATGAGCGCAGCC
 TCCTCCAGCCGCGAGCCAGCTGCAGGGAGCTTCTGGCCTGGGACCCCCCAGGAGCTGCAGGCAGACGCC
 GCCCGGCTCTGCGCCTTCTATGCCCGCCTGTGCCCGGGTCCAGGGCGCCTGTGCGCGCCTGGCGCACCA
 CAGTGCCTGCAGCGCCCGCGGCGATGCGAGCTGCGCTCGCTGGCGCACACGCTGCTGGGCCCTGCTGCGGAAC

GCGCAGAGCTGCTCGGGCCTCGTCCGGGACTCGGGCCCTGGCCCCCGCCCTGGCTCTCCCCGCTCCAGCG
CTCAGGGAGTCTCTGACCCCGCCGGAGCTCGGGCTTCACTCAGGATCGGGCTGAGGCACTCGGT
TCCGAAGCGGAGCGGAGCCGCGGAGAGCCAAAGGCTGCCCTGGCTGGAGCCCTGCGACAGAAGT
TGGCTGCCCTGCAGGGGGCCCATGCTGGATCCTGCAGGTCCTCGGAGCACCTGGCCATGAACCTTTCATGA
GCTCTGCAGATCTGGCTCCAGACACTGACCGGGCTTTTACAGCCCTGGTGGGAGGCTTGGGGG
CCGGCATGTGGCCTTCAGCGGCTGGTGGCCCTGGAGCCGGCCACACTGGCTCGCAGCCCTCCCCGGCTGCT
GGTGAGGGCCCTGCAGGCCCTTCCGCTGGCTGCCCTGGCAGAGGGAGCCCGAGGACCTGGATGGATGT
AGGCAGGGGCCCGGCTGGAGAGGAGGGGCCACCCCACTCAACCCTCAGGTACCCCGCCGAGGCAACC
CTGA

>SGPR455_SEQID_42

ATGAGTCCTGATATTGCACTGCTGTATCTAAACACAAAGTCAAGTTTGAAATGCTGTTCAAGCAATCTGTCTTC
CTGACAGCGATGATAAGTTGAACCAAGGATTTCTTGTCTTATCCAGTGGATGGGCAAGATTTCCAAACATCAG
AATATTCAAATGCTCTACAAAGAAATGGAACCTCCCATCATGGATGACAGAGCGTGAATACTGTCTCAAGAGCAT
GAACCTCCCTCCCTGGGAGGACCATGCTGTGTGCTGCTTCCCTGATTGGGAAATGGAGCCCTGCCAGGGG
GACTCTGGAGGACCACTGGTTGTAGAAAGAGGTGGTGAATCTGGATCTTCTGGGATAACTTCTCTGGGTAGC
TGTTGTGCTGGAGTTCAAGTCCCGTAAGAAACCAACCATGTGAAGGCATCACTTGGCATTTTCTCCAAAGTGTC
TGAGTTGATGATTTTATCACTCAAACCTGTTCAAGGTTTGATCGGGCCACCCCTCTCAAAAGTGGGCTC
AAGGTATATAACAAAGGCCCTGAGTTCTGTCCAAAGAGTGAATGGAAGCCAGAGATAAAATAATCCTGATAAA
ATTTACAAGTTTAGACATGGAAAGCAAGTTGGATGTGATCATGACTATGTATCTTTACGATCAAGCAGTGGAGTG
CTTTTGTAGTAAAGTCTGTGGAAAAATATTGCCCTTCAACCATTTGCTGGCAGAGACCAAGTGGCCATGTTCCATTT
GTTTCTGATACAGAAGACAGTGGCAGTGGCTTTGAGCTTACCGTTACTGCTGTACAGAAGTCAGAAGCAGGTC
AGGTTGTGGAGTCTGGCTATATTGTTAGAAAGGACAAATCACTCTGCCAAGTATCCTGATTTGTATCCCCAG
TAACACAAGGTGCATTGGTTCAATTGTGCTCCAGAGAGCACATTAAGTTGACATTTGAGGACTTTGCTGTC
AAATTTAGTCCAAACTGTATTTATGATGCTGTTGTGATTTACGGTGATTTCTGAAGAAAAGCACAAAGTTAGCTAAACT
TTGTGGAATGTTGACCATCATTCAATATTCAAGTTCTAGTAACATGACGGTGATATACCTTTAAAGTGATGGTAAAA
ATCGTTTACAAGGCTTCAAGGCCAGATTTACCATTTTGGCCTCAGAGTCTTTAAACAAATTTGAACCAAGTTACC
TCCCCAAACAAATCCTGTATCTACCGTAAAGCTATTCTGCATGATGTCTGTGGCATCCCTCCATTTAGTCCCCAG
TGGCTTTCCAGAAGAAATCGCAGGAGGGGAAGGCCCTGCCCCCACTGTTGGCCATGGCAGGTGGGCTGAGGT
TTCTAGGCGATTACCAATGTGGAGGTGCCATCATCAACCCAGTGTGGATTTCTGACCGCAGCCCACTGTGTGCAA
TTGAAGAATAATCCACTCTCTGGACTATTATTGCTGGGACCATGACAGAAACCTGAAGGAATCAACAGAGCAG
GTGAGAAGGGCCAAACACATAATAGTGATGAAGACTTTAACACACTAAGTTATGACTCTGACATTTGCCCTAATAC

FIG. 1LL

AACTAAGCTCTCCTCTGGAGTACAACTCGGTGGTGAGGCCAGTATGTCTCCACACAGCGCAGAGCCTCTAATTT
 CCTCGGAGATCTGTGCTGTGACCGGATGGGAAGCATCAGTGCAGAGCTCTCTCTGAATGTTTCTTCATTAGATG
 GTGCCCTAGCAAGTCGCCCTACAGCAGATTCAAGTGCATGTGTTAGAAAGAGAGGCTGTGAACACACTTACTATT
 CTGCCCATCCAGGAGGATCACAGAGAGATGATCTGTGCTGGCTTTGCAGCATCTGGAGAGAAAGATTTCTGC
 CAGGAGACTCTGGTGGCCACTAGTATGTAGACATGAAAATGGTCCCTTTGTCTCTATGGCATTGTCAAGCTG
 GGGAGCTGGCTGTCTCAGCCATGGAAGCCGGGTGATTTGCCAGAGTGATGATCTTCTTGGACTGGATCCAAT
 CAAAAATCAATGGTAAATTGTTTTCAATGTTATTAAACAATAACCTCTTTCTTAGAGTGGGTTTGGGAACAGTG
 AGTTGTTGCTCTGAAGCAGAGCTAGAAAAGCCTAGAGGCTTTTCCCACACCCAGGTATCTACTGGATTATAGA
 GGAAGACTGGAATGTTCTGGGTGCTCAGAGTTTCAGCAAGCAGTATGCAAAATTTACCATTGAGTATCTGTCA
 CTCCTGGGTCTCCTGTGTCAAGACTCAGTCTAATTATTATGAAGAAAGACACAGTAAGAGAAAGACGGCA
 GTTGATTACATGGAAGAGACTTTACTCAATGACTTTCAAGTCTGACCGCTGGTGGGTGACATTCCAT
 GCCCTTGACGAGGTGCAATTTGGTATAAGCTATAATTGCTTGAAGTCTTAGGTCCAAAGGACAGTAAATAACC
 AGACTTTCCCAAAGTTCAAACAGAGAGCAGTCTGGTCCCTTGTGAGGATGTTCTTCTGACCAAGCCAGAAGGGATC
 ATGCAGATCCCAAGAAATTTCTCAGAACTACTATGGTTGCCAATGGAGATTAGTAGCCCTTTAAATCACATCA
 TTCAGCTTAATATTAACTTCCCGATGAAGCCAACTTTTGTCTGTCTGTCATGTCATCTGCGTGTTTACGAAGG
 ATTTGGACCAGGAAAAAATTAATAGGTAGAAATGTTGATGAGCACTGAGCTTTCTTGTTCCTAAGCCAAATTCAGC
 ACCAAGAAGACCACAGCTTCTTGTGGGAGACTGCAGTATCTATGAAAATGATGTATACTTCTATCTTTCTTGCCC
 TACAGAACACCTGTTACCATGCACCTGCCTCATGAGGTGTTTGAGAAATTAATAA

>SGPR507_2_SEQID_43

ATGAAATATGTCTTCTAATTTGGGTGTCCTCGCTGGGACATTTTCTTTGCTGACTCATCTGTTCAGAAAGAAGACC
 CTGCTCCCTATTGTGTACCTCAAGTCTCACTTCAACCCCTGTGTGGCGTCTCTCATCAAAACCCAGCTGGGTGC
 TGGCCCCAGCTCACTGCTATTTACCAATCTGAAAGTATGCTGGGAAATTTCAAGAGCAGAGTCAGAGACGGTA
 CTGAACAGACAATTAACCCCATTCAGATCGTCCGCTACTGGAACCTACAGTATAGCGCCCCACAGGATGACCTCA
 TGCTCATCAAGCTGGCTAAGCTGCCATGCTCAATCCCAAGTCCAGCCCTTACCCTCGCCACCACCAATGTCA
 GGCCAGGCACTGTCTACTCTCAGGTTTGACTGGAGCCAAAGAAACAGTGGGCTTTGGCAGCTGGAGCCA
 CCAGGCCATCTGACTCTGCACAGAGGCCACGCAATTCCTGATTGGCAGAGACACAATTCACATGAACAAGGCCG
 ACACCTGACTTGCAGGCAACCTGGAGGCCCCCGTGTGATGCTGATCGAGAAATGCCAAAACAGAAACAGGAA
 AAAGCCACAGGAATTCCTTATGTGTAAATTTGTGAAAGTATTCAGCCGAATTTTGGGAGGTGGCCGTTGCTA
 CTGTCTCTGCAAGACAGCTCCAGGGAATCGAGGTGGGCACTTCTATGGGAGGGACGTCGGCATCTACAC
 CAATGTTTACAAATATGTATCCTGGATTGAGAACACTGCTAAGGACAAGTGA

FIG. 1MM

>SGPR559_SEQID_44
 ATGGGGGAAAATGATCCGCCCTGCTGTTGAAGCCCCCTTCTCATCCGATCGCTTTTGGCCTTGATGATTTGAAA
 ATAACTCCTGTTGCCACCATGATGCTGTTGCTGCACAGATCCTGTCACTGCTGCCATTGAAGTTTTTTTCCA
 ATCATCGTCATTGGGATCATTGCATTGATATTAGCACTGGCCATTGGTCTGGGCATCCACTTCGACTGCTCAGGG
 AAGTACAGATGTCGCTCATCCTTTAAGTGATCGAGCTGATAGCTCGATGTGACGGAGTCTCGGATTGCAAAAGAC
 GGGAGGACGAGTACCGCTGTGCCGGTGGTGGTGCAGAAATGTTGCCGTGCCCAACTGGGTTTCCCAAGC
 GGAAGACCATGTGCTCCGATGACTGGAAGGTCACTACGCAATGTTGCCGTGCCCAACTGGGTTTCCCAAGC
 TATGTGAGTTCAGATAACCTCAGAGTGAGCTCGCTGGAGGGGAGTTCCGGAGGAGTTTGTGTCCATCGATCA
 CCTCTTCCAGATGACAAGGTGACTGCATTACACCACTCAGTATATGTGAGGGAGGATGTGCCCTCTGGCCACG
 TGGTTACCTTGCACTGCACAGCCTGTGGTATAGAAAGGGCTACAGCTCAGCATCGTGGTGGTGGAAACATGTCC
 TTGCTCTCGCAGTGGCCCTGGCAGGCCAGCCTTCAGTTCCAGGGTACCACCTGTGCCGGGCTCTGTCAATCA
 CGCCCTGTGGATCATCACTGCTGCACACTGTGTTTATGACTTGACCTCCCAAGTCATGGACCATCCAGGTGG
 GTCTAGTTTCCCTGTTGGACAATCCAGCCCCATCCACTTGGTGGAGAAGATTGTCTACCCACAGCAAGTACAAGC
 CAAAGAGGCTGGGCAATGACATCGCCCTTATGAAGCTGGCCGGCCACTCACGTTCAATGAATGATCCAGCCT
 GTGTGCTGCCCAACTCTGAAGAGAACTTCCCGATGAAAAGTGTGTGACGTACGATAGGATGGGGGGCCACAG
 AGGATGGAGCAGGTGACGCCCTCCCTGTCTGAACCAACGCGCGCTCCCTTTGATTTTCAACAAGATCTGCAAC
 CACAGGACGTGTACGTGGCATCATCTCCCTCCATGCTCTGCGCGGCTACCTGACGGGTGGCGTGGACA
 GCTGCCAGGGGACAGCGGGGCCCTGCTGTCAAGAGAGGAGGCTGTGGAAGTTAGTGGAGCGACCA
 GCTTTGGCATCGGCTGCGCAGAGGTGAACAAGCCTGGGTGTACACCCGTGTACCTCCTTCTCCTGGACTGGAT
 CCACGAGCAGATGGAGAGAGACCTAAAACCTGA

>SGPR567_1_SEQID_45
 ATGGAGAGGGACAGCCACGGGAATGCATCTCCAGCAAGAACACCTTCAGCTGGAGCATCTCCAGCCCAGGCAT
 CTCCAGCTGGGACACCTCCAGGCCGGCATCTCCAGCCAGGCATCTCCAGCCAGGCATCTCCAGCTGGGAC
 ACCTCCGGCCGGCATCTCCAGCCAGGCATCTCCAGCTGGTACACCTCCAGCCGGGCATCTCCAGGCCG
 GGATCTCCAGCCCAGGCATCTCCAGCCAGGCATCTCCAGCCAGGCATCTCCAGCCGGGCATCTCCGGCT
 CTGGCATCACTTCCAGGTCCTCATCCGGCAGGTATCATCCGCCAGGTACGCTCGGTGACAACTCCCCAAC
 CAGAGTGATCCTTGTAGAGCAACACCAAGTGGGGCTGTACCCATCCGATCATCTCTGCCAGGTACGACACAG
 CAACAGGCCACAGGAGAGCCAGTCCAGTTCTGGCAGGGCCACACAGGGATCAGGTACAAGGAGCAGA
 GGGAGAGCTGTCCCAAGCAGCTGTTCGCTGTGACGGGTGGTGGACTGCAAGCTGAAGAGTGACGAGCTGG
 GCTGCGTGAGGTTGACTGGGACAAGTCTCTGCTTAAATCTACTCTGGTCTCCCATCAGTGGCTTCCCATCT
 GTAGCAGCAACTGGAATGACTCCTACTCAGAGAAGACCTGCCAGCAGCTGGGTTTCGAGAGTGTCCACGGACA

FIG. 1NN

ACCGAGGTTGCCACAGGGATTTGCCAACAGCTTCTCAATCTTGAGATACAACTCCACCATCCAGGAAGCCTC
CACAGGTCGAATGCCCTTCCAGCGGTATATCTCCAGTGTCCCACTGCGGACTGAGGCCATGACCGG
GCGGATCGTGGAGGGCGCTGGCTCGGATAGCAAGTGGCCTTGGCAAGTGAGTCTGCACTTCGGCACCCAC
CCACATCTGTGAGGCACGCTCAATTGACGCCAGTGGTGCTCACTGCCGCCACTGCTTCTTCTGACCCCG
GAGAAAGTCTGAGGGCTGGAAGGTACGCGGCACAGCAACTGCACCAAGTTGCCCTGAGGCAGCCTCC
ATTGCCGAGATCATCAACAGCAATTACACCGATGAGGAGGACGACTATGACATCGCCCTCATCGGCTGTC
CAAGCCCCTGACCCCTGTCGCTCACATCCACCCCTGCTTGCCTCCCATGCAATGGACAGACCTTTAGCCTCAATG
AGACCTGCTGGATCACAGGCTTTGGCAAGACCAAGGAGACAGATGACAAGACATCCCCCTTCCCTCCGGAGGT
GCAGGTCAATCTCATCGACTTCAAGAAATGCAATGACTACTTGTCTATGACAGTTACCTTACCCCAAGGATGAT
GTGTGCTGGGACCTTCGTGGGCGCAGAGACTCCTGCCAGGGAGACAGCGGGGGCCTCTTGTCTGTGAGCA
GAACAACCGCTGGTACCTGGCAGGTGTACCCAGCTGGGGCACAGGCTGTGGCCAGAGAAACCAACCTGGTGTG
TACACCAAGTGACAGAAATTCTTCCCTGGATTTACAGCAAGATGGAGAGCGAGGTGCGATTTCAGAAATCCTAA

>SGPR479_1_SEQID_46

ATGGCTGCCCTGCTTCCGTCATGGCCCCACTCGGGCCCTCTGCCCTGGGCCCTTCTGCTGCTCCTGCTGG
TGGCCCCCTCCCGGGTGCAGCATTTGGTCCACAGACAGCCAGAAACAGGAATCTCCCTAACTGGCAGCGT
GGCCTGTGTCGGCCAGCATGGAGGGAAATCTCTGGCGCGTCCCTGCGCCCGAGAGGAAGTGCCCGTG
GCAGTCAAGTGCATACGAGGCTCCACGTCTCGGGCGGCTCCATCTCAATGAGTACTGGGTGCTGTCA
GCTGCGCACTGCTTTCACAGGGACAAGAATATCAAAATCTATGACATGACGTAGGCCTGTAACCTCAGGGTG
GCCGGCAACCAACCCAGTGGTATGAGGTGAACAGGGTGATCTGCACCCACATATGAGATGTACCAACCCCAT
CGGAGGTGACGTGGCCCTGGTGACGTGAAGACCCGCATTGTGTTTCTGAGTCCGTGCTCCCGTTTGCCTTG
CAACTCCAGAAGTGAACCTTACCAGTGCCCAATTGCTGGCTACGGGATGGGACTAGTCTCAAACAAGGTGAG
ACCTCAGACGAGCTGCAGGAGGTGCAGCTCCCGCTGATCCTGGAGCCCTGGTGCCACCTGCTCTACGGACACA
TGTCCCTACATCATGCCCCGACATGCTGTGTGCTGGGACATCCTGAATGCTAAGACCGTGTGTGAGGGCGACTCC
GGGGGCCCACTTGTCTGTGAATTCAACCGCAGCTGGTTGCAATTGGAATTGTGAGCTGGGCCGAGGCTGCT
CCAACCCCTCTGTACCCCTGGAGTGTATGCCAGTGTTCCTATTTCTCAAATGGATATGTGATAACATAGAAATCAC
GCCCACTCCTGCTCAGCCAGCCCCCTGCTCTCTCCAGCTCTGGGGCCCCACTCTCAGCGTCTCTAATGGCCATGC
TGGCTGGCTGGTCAGTGTCTGTGA

>SGPR489_1_SEQID_47

ATGAGTCTCAAAATGCTTATAAGCAGGAACAAGCTGATTTTACTAGGAATAGTCTTTTTTTGAACGAGGTAAT
CTGCAACTCTTTCGCTCCCCAAAGCTCCAGTTGTGGCAGAGTCTGGTTAAGGTACAGCCTTGGAATTATTTTA

FIG. 100

FIG. 1PP

ACATTTTCAGTCGCATTCTTGGAGGAAGCCAAAGTGGAGAAGGGTTCCCTATCCCTGGCAGGTATCTCTGAAACAA
 GGCAAGACATATTTGTGGAGGAAGCATCGTCTCACACAGTGGTGATCACGGCGCTCACTGCAATTGCAAAAC
 AGAAACATTGTGCTACTTTGAATGTTACTGCTGAGAGTATGACTTAAGCCAGACAGACCCAGGAGAGCAAACT
 CTCACATTTGAACCTGTCAATACATCCACATTTCTCCACCAAGAAACCAATGGACTATGATATTGCCCTTTTGAA
 GATGGCTGGAGCCTTCCAAATTTGGCCACTTTGTGGGCCCATATGTCTCCAGAGCTGCGGAGCAATTTGAGG
 CTGGTTTTATTTGTACAACCTGCAGGCTGGGGCCGCTTAACCTGAAGTGGCTGCTCTCACAAAGTCTTGCAAGTCTTGCAAGAA
 GTGAATCTGCCTATTTGACCTGGGAAGAGTGTGGCAGCTCTGTTAACACTAAAGAGGCCCATCAGTGGGAA
 GACCTTTCTTTGCACAGGTTTTCTGATGGAGGAGAGACGCATGTCAGGGAGATTTCAGGAGTTCACTCATGT
 GCCGGAATAAGAAAGGGCCCTGGACTCTGGCTGGTCAATTTGGAGGCTCAGGTGGAGGATCGCTTGAGTC
 CAGGAGTTCAAGACCAAGCCTAGGCAACAAAGTGAGACTCTGTCTCAAAATAATTTCTCAAAATAATAGCCGG
 GTGTGGCACCTGGTGAGTGAGCAGGATGTCAATAGTCAGCGGGCTGAGGGAAAGTGCATTTCCAGAAAGC
 CTCACCTATATTATGAGAGCAAGCAACGGTGTGTCTGGACCTGCTGTACCAAGAGGAATGCATGTGTGCT
 CAGTTTTCCACCTAGATGTTGAGTCTTGTCAACACAGTTACCTGTCAATGTATTCTTTAGAAGACAGACCCATT
 GGAAATTTTGTGGAGAAAGCCTCCCTTCATCCATTCTATTGGCTCTAATCTCTAAGGCTGAAATTCGCTCTCTG
 ATGCCACAGATTATGCAGCTGGGTTTAACTTTACCTATAAGCTCTTAAACCAAACTACATTCCTGGTTGCAGTTA
 CTTAACTGTCTTTTGAAGAAAGGTCTCATACAGAGTCTAACTATCTCTGAAACTACAGTGACAAGCTAACTGT
 GACTGGAATTTTCAAGCCTCCAAACATCACCTAATTAAGCTTTCAATTCAGAGTCTGAAATAGAAAGAAAGTGGAG
 ACTGCACCTCCGACTATGTACAGTGACAGCGATGTAGAAAGGAAGAAATAGCTCGGCTGTGTGGCTAT
 GATGTCCCCACCCCTGTGTGAGCCCCCTCCAGCATCATGCTCATCAGCTTCCATTTCAGATGAAACGGGACCTG
 CAGGGGCTTTTCAGGCTATAGTCTCCTTTCATTCTAAAGCAGTATACCCAGATTTAAACATCTCCATATCAGAGGAT
 GAGTCAATGTTTCTGGAGACATGA

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CGGTGGCCATGGCAGTCCCTCTACCTAGGGGGCACATCTGTGGAGCTGCCCTCATCGACAGCAACT
 GGTGGCCTCTGCTCACTGCTTCCAAAGATGCATCTTCCCTCCACGGGCCCGCTGTCCACTAACCCATCT
 GATTACCGGATCCTGCTTGGGTATGACCAGCAAGCCATCCACAGAGCACAGCAAGCAGATGACAGTGAATAA
 GATCATGTTGCACGCTGACTATAACGAGTTGCACCGCATGGGAGTGACATCACCTGCTGCAGCTGCACCATC
 ATGTGGAATTCAGCTCCACATCTCCCGCCTGCCCTCCGGAACCAACACGTGGCTGGCCCTGACAGCTCC
 TGCTGGATATCTGGTTGGGAATGTTACCGAGGATGCTTCTGCTGAGCCCTTCCAACTTCAGGAGGCAGA
 GGTGGGTGTCATGGACAACACTGTCTCGGATCCTTTTCCAGCCCCAGTACCCCGCCAGCCAGCAGCAGTG
 ACTACACCATCCACGAGGACATGCTGTGCGCTGGGACCTCATAACAGGAAGGCCATTTGCCGAGTGAATCC
 AGGGTCCCCTCGTCTGCCCATTAATGGCACCTGGTTCCTGATGGGCTGTCTAGTTGGAGCCTCGACTGCTG

CTACCCGTCGGTCCAGGGTCTTACCAGGCTCCCTACTTACCAACTGGATCAGCCAGAAGAAGAGGGAGA
GCACCCCTCAGATCCCGCCTTGGCTCCTCCTCAGGAACACCCCCAGCCCTGGACAGCATGACCTCTCAGGG
CATCGTCCACAAGCCCGGGCTCTGGCAGCCCTTCTGGCTGCTACATGTTCTCCTCTGCTGATTCCTCTGG
GGAGCCTG

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ATGGACAAAGAAACAGCGATGTTTCAGCCGACCTGCTGACCTGAAATATCCAATATCTCAGTCCAAGTGGTC
AGTGCCCAAAAGAGCTGCCAGTGAGACGACACCCGTTGCCAGGGAGACGACTACCATTGCCAGGAAGACGAC
CACCACAAAGACCCATTGGCAAGCCAAACCCAGGAAGCAATCCAAGAAAAGTTCCCTTTTGGAAATGTACAAA
ATAAATCATTTCTTCACAGTATTTTATTATCCTAGCAGTATAGCCTGGACACTTCTGTGGCTGATATCAGT
AAAACAGAAAGCAAGATGCTTTTACTTTGCTGGATGTTTCGATCACCAACATTTGAGTTTCTTCCGAATACC
GACAAAAGGAGTCCAGGGAATTTCTTCAGTGTACGGACTGTGCAGCAAGTGATAAACCTGGTTTATACAAAT
CTGCCCTTCCAAATTTATGAGCAGTCTGTTGTTGCAGATGTGAGCAGCAACAAGCGGCCCTCCTTGTC
ACTTTTGGAATGTTTGTGTCATGCCACGTGCCAAAGGCCACATCTTCTGTGAAGACTGTGTGCCGCATCTTGAA
GGACTCCATCCAGACAGCATCATAAACCGGACCTCTGTGGGAGCTTGCAGGACTGGCTGTGGACATGGAC
TCTGTGTAATAATGTGATTGTTGGTCAATCTTAAAAAAAGAAAAGAAAGGAAAATGGTGTCTCTCCACAG
ACAAAGGCTGCTCAGTACTTCTATGCAGAGCATCTGTCTCTCACTACCCGCTGGAGATTTCTGCAGCCTCAG
GGAGGCTGATGTGCACCTCAAGCTGGTGGCCATAGTGGCTACCTGATTCTCTCAATCAAGTCCATCCAAA
TCGAAGCCGACAACTGTCTCACTGACTCCCTGACCATTTACGACTCCCTTTGCCCATCCGGAGCAGCATCTTGT
ACAGAAATTTGTGAACCCACAAGAACATTAATGTCAATTTGTTCTACAATAATCTCATGTTGGTGACATTTAAGTCT
CCTCATATACGGAGGCTCTCAGGAATCCGGGCATATTTGAGGTCAATCCAGAACAAAGTGTGAAAACACACAGTG
TTGGTCAAAGACATCACTGGCTTTGAAGGGAAATTTCAAGCCATATTACCCGAGCTACTATCCTCCAAAATGCA
AGGTACCTGGAAATTTCAGACTTCTCTATCAACTCTTGGCATAGCACTGAAATTTCTAACTATTCAATAACCAAG
AAGAGTATGAAAGGCTGTGAGCATGGATGGTGGAAATTAATGAGCACATGTACTGTGCTCTACATGGATCAT
CAGACAATTTTTCGAGTGCCAGCCCTCTGGTTACATTCAGCTCCAGTCCAGTTCAGGGCTTTTCAGACAAGCCA
CTTTTGGCAGAAATATGGCAGTTACAACATCAGTCAACCCCTGCCCTGTTGGATCTTTTAGATGCTCCTCCGGTTTAT
GTGTCCCTCAGGCCCCAGCGTTGTGATGGAGTAAATGACTGCTTTGATGAAAGTGATGAATGTTTTCGTGAGCC
CTCAACCTGCCTGCAATACCAGCTCCTTCAGGCAGCATGGCCCTCTCATCTGTGATGGCTTCAGGGACTGTGAG
AATGGCCGGGATGAGCAAAACTGCACCTCAAAGTATTCATGCAACAACAGAACTTTTAAGTGTGCAATGATATT
TGCTTTAGGAACAAAATGCAAAATGTGATGGGACAGTGGATTGTCCAGATGGAAGTGATGAAGAAGGCTGCAC
CTGCAGCAGGAGTTCTCCGCCCTTCAACCGCATCATCGGAGGCACAGACACCCCTGGAGGGGTTGGCCGTGG
CAGGTCAGCCTCCACTTTGTTGGATCTGCCTACTGTGGTGCCTCAGTCAATCTCCAGGGAGTGGCTTCTTCTGCA

FIG. 1QQ

GCCCACTGTTTTCATGGAAACAGGCTGTCAGATCCACACCATGGACTGCACACCTCGGGATGTATGTTTCAGGG
 GAATGCCAAGTTTGTCTCCCGGTGAGAAGAATTGTGTCACGAGTACTATAACAGTCAGACTTTTGTATTATGA
 TATTGCTTTGCTACAGCTCAGTATTGCCCTGGCTGAGACCTGAACAGCTCATTACGCCAATATGCATTCCTCC
 CACTGGTCAGAGAGTTGCAGTGGGAGAAGTGTGGTAACTGGCTGGGGCGAAGACACGAAGCAGATAAT
 AAAGGCTCCCTCGTTCTGCAGCAAGCGGAGGTAGAGCTCATTGATCAACCGCTCTGTGTTTCCACCTACGGGAT
 CATCACTTCTCGGATGCTCTGTGCAGGCATAATGTGAGGCAAGAGAGATGCCTGCAAGGAGATTCTGGGTGGAC
 CTTTATCTGTGCAAGAAAAGTGTGGAATGGATTGTGACTGGCATTGTTAGCTGGGACATGATGTGGAC
 GACCAAACTTTCTGTGTTTACACAGGGGTGTCAAACTTTGTTCCCTGGATTCAATAATATGTCCTTCTCTTTT
 GTAA

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ATGACATTGAACAAAAATTAAAGACCTTTTTCAGGGAAAGACAGTGGGATTTGGCACCCGAGCAGAAATGCTG
 AAGCCATGGATGATTGCCGTTCTCATTTGTGTTGTCCTGACAGTGTGGCAGTGACCATAGTCTCCTGGTTTCAC
 TTCCTAGTATTGACCAAAAAAGGAGTACTATCATGGCTCTTTAAATTTAGATCCACAAATCAATAACAATTT
 CGGACAAAGCAACACATATCAACTTAAGGACTTACGAGAGACGACCGAAAAATTTGGTGTATTCTTTGAAAAATGTAC
 CTTTCTTTTGTGTGCAGTCCAGAGGAAGATGGTGTGAAAGTAGATGTCATTATGGTGTCCAGTTCCTCCTA
 CTGAAACAAAGGGCAGTAAGAGAGAAGAAAAATCCAAAGCATCTTAATCAGAAGATAAGGAATTTAAGAGCCTTGC
 CAATAAATGCCCTCATCAGTTCAAGTTAATGTGGCCATGTCAAGAATGGCAATGTGGGCCAGGTTCCGGAGCA
 GGAGAGGCTCCAGGCTGGGAGCAGGTCCTGCCCTGTCCACCAATGAGCTCATCAACAGGGGAGTTAACTGTCC
 AAGCAAGTTGTGTAAACGAGTTGTTCCATTAAACGTCAACAGAAATAGCATCTGGAGTCAATGCACCCAAAGCGG
 CCTGGCCTTGGCAAGCTTCCCTTCAGTATGATAACATCCATCAGTGTGGGCCACCTTGATTAGTAACACATGGC
 TTGTCACTGCAGCACACTGCTCCAGAAGTATAAAATCCACATCAATGGACTGTAGTTTTGGAACAAAAATCAA
 CCTCCCTTAATGAAAAGAAATGTCAGAAGATTTATATCCATGAGAAGTACCGCTCTGCAGCAAGAGATACGA
 CATTGCTGTTGTCAGGCTCTTCCAGAGTCACCTTTTCCGATGACATACGCCAGATTGTGTTGCCAGAAGCCTC
 TGCATCCTTCCAACCAAATTTGACTGTCCACATCACAGGATTTGGAGCACTTTACTATGTGTGGGAATCCCAAAT
 GATCTCCGAGAAGCCAGAGTGAATCATAGTGACGATGTCTGCAAGCAACACAGGTGTATGGCAATGATATA
 AAACCTGGAATGTTCTGTGCCGGATATATGGAAGGAATTTATGATGCCTGCAGGGGTGATTCTGGGGACCTTTA
 GTCACAAGGATCTGAAAGATACGTGGTATCTCATTTGGAATTGTAAGCTGGGAGATAACTGTGGTCAAAAGGAC
 AAGCCTGGAGTCTACACACAAGTGACTTATTACCGAACTGGATTGCTTCAAAAACAGGCATCTAA

FIG. 1RR

FIG. 188

>SGPR538_SEQID_51
 ATGAGCCTGATGCTGGATGACCAACCCCTTATGGAGGCCAGTATGCAGAGGAGGCCAGACCTGGGATCT
 TCAGAGCAGACCTGGAGACCAGCAGCATCCATTCTCAGCGGTGTGCTGGCGTTCCATGCGACGTGGCTG
 TGCAGTGTGGAGCCCTGGGCTGCTGGCCGGTGCAAGTGTGGCTCATGGCTCCTAGTGTATCTGTGT
 CCTGTGCTCTCAGCCCATTTCCGGGACCTTGCAAGATGAGAGATAACTTTGAGCTGCTCAGAGGCCAGCGC
 TGAGGAAGCTGTGCTCCTGCACTCCCAACAGTATCTTTCAGAAATAACAGCGAAAGACTTCTTGTGGAAGC
 GCAAGTAGGGATCAGCCACGCTGGCTCCTGGTCTGCCATGAGGGCTGGAGCCCGCCCTGGGCTGCAGAT
 CTGCTGGAGCCTTGGGCATCTCAGACTCACTACCACAAGGAGTAAACCTCACTGACATCAAACTCAACAGTTC
 CCAGGAGTTTGCTCAGCTCTCTCCTAGACTGGAGGCTTCTGGAGGAGCGTGGAGCCAGGAACTCAACTGC
 ACTTCTGGTCAAGTTGTTCCCTCAGATGCTCTGAGTGTGGAGCGAGGCCCTGGCTTCCCGGATAGTTGGTGG
 GCAGTGTGGCTCCTGGCGCTGGCGTGGCAGGCCAGCGTGGCCCTGGGCTTCCGGCACACGTGTGGGG
 CTCTGTGTAGCGCCACGCTGGTGTGACTGCTGCACATTGTATGCACAGTTTCAGGCTGCCCGCCTGTCCA
 GCTGGCGGGTTTCATGCGGGGTGTGTCAGCCACAGTGCCGTACGGCCCAACAAAGGGCTCTGGTGGAGAGGA
 TTATCCACACCCCTCTACAGTGCCCAAGTATGACTACGACGTGCCCTCCTGAGGCTCCAGACCGCTCTC
 AACTTCTCAGACACTGTGGCGCTGTGTGCTGCCGCAAGAACAGCATTTTCCGAAGGCTCGCGGTGCT
 GGGTGTCTGGCTGGGCCACACCCCTAGCCATACTTACAGCTCGGATATGCTCCAGGACACGTTGTGCC
 CTTGTTACGACTCAGCTCTGCACAGCTCTTGCCTGTACAGCGAGCCCTCACCCCGCATGCTTTGCCGTG
 GCTACCTGACGGAAGGCTGATGATGCCAGGGAGATAGCGGGGCCCTAGTGTGCCAGATGGGGACA
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 ATGGCCCGGCACCTGCTCCTCCCTTGTGATGCTTGTATCATCAGTCCCATCCCAGGAGCCTTCCAGGACTCAGC
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 GGCTCAACGCGCAGCGCGCACCTGGCCTTGGCAAGTAGCCTGCACCATGGAGGTGGCCACATCTGCGGG
 GGCTCCCTCATCGCCCTCCTGGTCTCTCCGCTGCTCACTGTTTCATGACGAATGGACGCTGGAGCCCCG
 CGGCCGAGTGGTACTGCTGGCGTGCACCTCCAGGACGGGCCCTGGACGGCGCGCACACCCGCGCA
 GTGGCCGCCATCGTGGTCCGGCCAACTACAGCCAAAGTGGAGCTGGCGCGCACTGGCCCTGCTGCGCCTG
 GCCTACCCGCGCAGCTGGGCCCGCGCTGTGGCTGTCTGCCCTGCCCGCGCCTCACACCGCTTCGTGCAC
 GGACCGCCTGCTGGGCCACCGGCTGGGAGACGTCCAGGAGGAGATCCTCTGCCTCTCCCCCTGGGTGCTA
 CAGGAAGTGGAGCTAAGGCTGCTGGGCGAGGCCACCTGTCAATGTCTCTACAGCCAGCCCGGTCCCTCAACC

TCACTCTCCAGATATTGCCAGGGATGCTGTGCTGGCTACCCAGAGGGCCGCAGGGACACCTGCCAGGGTGA
CTCTGGGGCCCCCTGGTCTGTAGGAAGCGGCCGCTGGTTCCAGGCAGGAATCACCAGCTTTGGCTTTGGC
TGTGGACGGAGAAACCGCCCTGGAGTTTCACTGCTGTGCTACCTATGAGGCATGGATACGGGAGCAGGTGAT
GGTTTCAGAGCCTGGCCTGCCCTTCCCACCCAGCCCCAGAACCCAGTCAGATCCCAGGAGCCACGGGAG
GAGAACTGCACCAATTGCCCTGCCCTGAGTCGGGGAAGCCCCCGCGCCAGGGGCCCTGGCCCTGGAGGCCCCAG
GTGATGTTGCCAGGATCCAGACCTGCCATGGGGCGCTGGTGTCTGAAAGCTGGGTCTTGGCACCTGCCAGCT
GCTTCTGGACCCGAAACAGCTCCGACAGCCCCCGGACCTCGACGCCCTGGCGCTGCTGCTGCCCTCGCG
CCGCGCGGAGCGGGTGGCGGCCCTGGTGACGACGAGAACGCTTCGTGGGACAAACGCCCTCGGACCTGG
CGCTGCTGAGCTGCGCACGCCCGCTGAACCTGAGCGCGGCTTCGGGGCCCGTGTGCTACCCACCCGGAAC
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GCGCTGCTGAGGGCGAGCTGTTAGCGGCTGGTGTGCCACTGCCCTGACGGCCCGCAGGGGCGGCGAGTA
CCGCTGCCCGAGACCCGCGCACGCGCTCTGCCCTGCCCTACCAGGAAAGGAGGAGGTGGGCAGCTGCTGG
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CTGATGGGAGGAGACTGAGACACAGACTTGTCCCCCACACACAGAGCATGGTGCCCTGTGGCCTGCGGCTGGA
GGCTGCTCCAGTGGGGTCTGTGGCCCTGGCTGGCAGAGGTGCATGTGGCTGGTGATCGAGTCTGCACCTGG
GATCCTCTGGCCCCAGGCTGGTCTTGCCAGCCACTCACTGTCTCAGGCCAGGCTCTACAACAGTGCCTT
ACATTGAAGTGATCTGGGCCGGCAGGGGCCAGCTCCCTCCACAGGGCCACAGGTATCCCGCTTGGTCA
CAGCATCCGGCTGCCCCAGCACCTGGGACTCAGGCCCCCCCTGGCCCTCCTGGAGCTGAGCTCCCGGGTGA
GCCCTCCCACATCAGCCCTGCCCATCTGTCTCACCCGGCGGTATCCCCCGGGGCCAGCTGCTGGGTGTTG
GGCTGGAAGAACCCAGGACCGAGTCCCTGTGGCTGCTGTCTCCATCTTGACACAAACGAATCTGTGACTG
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ATGACCTCAGCACCGCCCTCCTGTGCCAGATGACGGGAAGGTCCTGGATCCTCGTGGGCATGGCTGTTCAAG
GGAGCCGGGAGCTGTTGTGCCATTGGTCTTGAAGAGGCCCTGGATCTCCAGACAGTGGGAGAGGCCAACTT
CCTGCCCCCGAGTGGCTCCCCACACTGGCCCCACTGGAGGCGAGCAATCTGTCCCCCCCCAGAACTGGCCAAAGCC
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GCCATGGGCTCGGGTTGAGGGCTGGGACGTCCTCTGCTGACTGTGCCACCGCCCTGATGCTGCCCGTG
AAGCCCCCGCAGGCTCCTGGGGGCCAGATCATCGGGGGCCACGAGGTACCCCCACTCCAGGCCCTAC
ATGCATCCGTGCGCTTCGGGGCCAAACATCACTGCGGAGGCTTCCTGCTCGAGCCCCGCTGGTGCTCGG
CCGCCACTGCTTCAGCCACAGAGACCTCCGCACCTGGCCTGCTGCTGGCGCCACGTCCTGAGTACTGC
GGAGCCCCACCCAGCAGGTGTTGGCATCGATGCTCTCACCACACACCCCCGACTACCACCCCATGACCCACGCC

FIG. 1TT

AACGACATCTGCCCTGCTGCAGCTGAACGGCTCTGCTGTCTCTGGGCCCTGCAGTGGGGCTGCTGAGGCTGCCAG
 GGAGAGGGCCAGCCCCACACAGCGGGACACGGTGCCGGTGCTGGCTGGGCTTCGTGCTGACTTTG
 AGGAGCTCCGCCCTGGACTGATGAGAGGCCAAGTCCGAGTGTGACCCGGACGTCTGCAACAGCTCCTGGAA
 GGGCCACCTGACACTTACCATGCTCTGCACCCGAGTGGGACAGCCACAGACGGGCTTCTGCTCGGCCGAC
 TCCGGAGGGCCCTGGTGTGAGGAACCGGCTCACGGCTCGTTTCTTCTCGGGCCTCTGGTGGCGGAC
 CCCAAGACCCCGACGTGTACACGCAGGTGTCCGCCCTTGTGGCCTGGATCTGGACGTGTTCTGGCGGAGCA
 GTCCCCAGCCCCCCTGCCTGGACACACAGGCCCCAGGAGAAGCCGCCCTGA

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ATGCCCGTGGCCGAGGCCCCCAAGTGGCTGGGGCAGGGGACGGAGGTGATGGCGAGGAAGCGGAGCC
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 GTGCTGTGCCCTGCTGCTGGCTTCGGCGGGGTGCTACTCTGTGATTTCTTAGGTACAAGCGGAGG
 TGATGGTCAGCCAGGTGACTCAGGCAGTCTGCGTGTACTCAATCGCCACTTCTCCAGGATCTTACCCGCCG
 GAATCTAGTGCCCTCCGCAGTGAACCGCCAAAGCCAGAAGATGCTCAAGGAGCTCATCACAGCACCCGCCCT
 GGAACTTACTACAACTCCAGTCCGCTCTATTCCTTGGGAGGGACCCCTCACCTGCTTCTTCTGTTTCAATCT
 CCAATCCCCGAGCACCGCCGGCTGATGCTGAGCCCCGAGGTGGTGACGCACCTGCTGGTGAGGAGCTGCT
 GTCCACAGTCAACAGCTCGGCTGCCGTCCCCTACAGGGCCGAGTACGAAGTGGAACCCGAGGGCCTAGTGATC
 CTGGAAGCCAGTGTGAAGACATAGCTGCATTGAATTCACGCTGGTGTACCGCTACAGCTACGTGGGCCA
 GGGCCAGGTCTCCGGCTGAAGGGCCCTGACCACCTGGCCTCCAGTGCCTGTGGCACCTGCAGGGCCCCAA
 GGACCTCATGCTCAAACTCCGGCTGGAGTGGACGCTGGCAGAGTGCCGGGACCGACTGCCCATGTATGACGTG
 GCCGGCCCTGGAGAAAGAGGCTCATCACCTCGGTGTACGGCTGCAGCCGCCAGGAGCCCGTGGTGAGGTT
 CTGGCGTCGGGGCCATCATGGCGTCTGGAAGAAAGGGCCTGCACAGCTACTACGACCCCTTCGTGCTCT
 CCGTGCAGCCGGTGTCTCCAGGCTGTGAAGTGAACCTGACGCTGGACAACAGGCTCGACTCCCAGGGCGT
 CCTCAGCACCCCGTACTTCCCAGCTACTACTGCCCCCAACCCACTGCTCCTGGCACCTCACGGTGCCCTCTC
 TGGACTACGGCTTGGCCCTCTGTTTGATGCCCTATGCACTGAGGAGGCAAGTATGATTTGCCGTGCACCCAG
 GGCCAGTGGACGATCCAGAACAGGAGGCTGTGTGGCTTGGCATCCTGCAGCCCTACGCCGAGAGGATCCCCG
 TGGTGGCCACGGCCGGATCACCATCAACTCACCTCCCAGATCTCCCTACCCGGGCCCGGTGTGCGGGTGCA
 CTATGGCTTGTAACAACAGTCGGACCCCTGCCCTGGAGAGTTCCTCTGTTCTGTGAATGGAATGACTCTGTGCCCTG
 CCTGTGATGGGTCAAGGACTGCCCAACGGCCCTGGATGAGAGAAACTGCGTTTGACAGGCCACATTCCAGTG
 CAAAGAGGACAGCACATGCATCTCACTGCCCAAGGTCTGTGATGGGACGCTGATTGTCTCAACGGCAGCGATG
 AAGAGCAGTGCCAGGAAGGGTGCCATGTGGGACATTACCTTCCAGTGTGAGGACCGGAGCTGCGTGAAGAA
 GCCCAACCCGACGTGTGATGGCGGCCCGGCTGCAGGGACGGCTCGGATGAGGAGCACTGTGACTGTGGCCT

FIG. 1UU

CCAGGGCCCTCCAGCCGCATTGTTGGTGGAGCTGTCTCCGAGGGTGAGTGGCCATGGCAGGCCAGCCTC
 CAGGTTCCGGGTCGACACATCTGTGGGGGCCCTCATCGTGACCGCTGGTGATAACAGCTGCCACTGCT
 TCCAGGAGGACAGCATGGCCCTCCACGGTGTGGACCGTTCCTGGCAAGGTGTGGCAGAACTCGCGCTG
 GCCTGGAGAGGTCTCTCAAGTGAGCCGCTGCTCTGCACCCGTACCAAGAGAGGACAGCCATGACTAC
 GACGTGGCGCTGCTGCAGCTGACCAACCGGTGGTGGCTGGCCCGCTGCGCCCGCTGCTGCCCTGCCCGG
 CGCTCCCACTTCTCGAGCCCGGCTGCACTGCTGGATTACGGCTGGGCGCCTTGCGGAGGGCGGCCCC
 ATCAGCAACGCTCTGCAGAAAGTGAGTGTGAGTTGATCCACAGGACCTGTGCAGCGAGGCCATCGCTACCA
 GGTACGCCACGCATGCTGTGCCGGCTACCGCAAGGCAAGAGATGCCTGTCAAGGTGACTCAGGTGGT
 CCGCTGGTGTGCAAGGCACTCAGTGGCCGCTGTTCTGCGGGGCTGGTCAAGTGGGCGCTGGGCTGTGGC
 CGGCCTAACTACTTCGGCGTCTACACCCGCATCACAGGTGTGATCAGCTGGATCCAGCAAGTGGTGACCTGA

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GACCTGCCGGCCATCTTGCTCACCAGCCTCCAAATCGGGCTGGGGCTCCTGAGCGTGGCGCTGTTGTTGTGG
 GGAGCTCTCACTTATACTCAGACCCTACTCGCCCTCTGGAAGGCACAGGCTCGGCCCTCGCCGGAACCGGC
 GGCTAGTCCAGCAGGCTGAGGCCGTCGCAAGAGGCTCCGGCGGCGGAGGAGGGCGCATGCAA
 AGGATTGTGGAACAGCACCGCTTAAGGATGTGTTGCAAGGCTCGGATTATAGGGGCAACCAAGCT
 GGCGCATGGCCGTGGTGTGAGCCTGCAGATTAAATATGGCGTGTCTTGTTCATGTATGTGGGGAACCT
 AGTGAGAGAGAGGTGGTCTCAGAGCTGCCACTGCCTAAAGACACTAGCGATCCTTAAATGTGGACAGCTG
 TGATTGGAATAATAATACATGGACGCTATCCTCATCCAAAGAGATAAAATTAAGCAATCATTTATTCCTCA
 AACTTCATTTTGGAACTTTATGTAAATGATAATGCACCTTTTCACTTAAAAAGCAGTGAGGTATAATGACTATAT
 CAGCCTATTTGCCCTACCTTTTGATGTTTTCCAAATCCTGGACGGAAACACAAAGTGTTTTATAAGTGGCTGGGAA
 GAACAAAGAAGAAGTAACGCTACAAATATTTTACAAGATGCAGAAGTGCAATTATTTCTCGAGAGATGTGTAA
 TTCTGAGAGGATTATGGGGAATAATTCCTAACACTTCATTTGTGCAGGTGATGAAGATGGAGCTTTTGATACT
 TGCAGGGGTGACAGTGGGGACCATTAATGTGCTACTTACCAGATATAAAGATTTTTGTAAATGGGAATTACC
 AGTTACGGACATGGCTGTGGTGAAGAGGTTTTCCCTGGTGTCTATATTGGGCCATCCTTCTACCAAAGTGGCTG
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 TATGTTTTGTCACTTACTAGCAACAACATAA

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AGCCCCCGCAGCCAGGACCCCTGACTGTAGGCTCCAGGCCCTCCCTGGAAGCCCTGGCCACGCTCGCCCCG
 CAGCCCTCAGACTGGCTGTGCTTCGCGGATCTTGGCTGTTTCGAGGCTGATGGAGCTGCCCACTCCATGGGCC
 TGGGCAGCAGCTTGAAGTGGCGTGGGCCAAGCCCTCTGGGATGCCCGTCCCAGAGAAATGACCTGGTGGGCAT

FIG. 1W

TGTGGGGCCACAATGCCCCCGGGGAAGTGGCCGTGGCAGGTGAGGCTACAGCTACCACTG
GGCTCCTGGCGCACATCTGTGGGGCTCCCTCATCCACCCAGTGGTGTGACTGCTGCCACTGCATT
TTCTGGAAGACACCGACCCGTCATACCGATCCAGCTGGGACGTGTATCTACGGGGCCGGGGC
TGCTGAACGTGAGCCGATCATGTCACCCCAACTATGTCACTGCGGGCTGGTGGGATGTGCCCTGCT
CCAGTGGCGGGTACCTCTCTCCAGAGTGGTGGCCGCCCTACCGCTGCAGCAGCGAGTGTGCA
GGTGTGAGAACGCCGCTGTGAGCAGCCCTACCGCAACGCTCAGGCACTGGCAGCCGCACTCATC
CTGGATGACATGCTGTGCCGAGCAGGAGCCGAGACTCCTGTACGGTACTCCGGCGCCCTCTGGTCT
GCAGGCTGCGGGGTCTGTGGCGCTGGTGGGGTGGTACGTGGGCTACGGCTGACCCCTGCGGACTTTC
CCGGCGTCTACACCCACGTCCAGATCTACGTGCTCTGGATCCTGCAGCAAGTCGGGAGTTGCCCTGA

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GCGGAGGCTTCTGCTGCTGCGAGCCCGCTGGTGGTCTCGGCCGCCAGTGTCTCAGCCACAGG

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GGAGATTCTGGGGGGCCCTGGTCTGTGAATTAAATGGCACATGGGTCCAGGTGGGATTGTGAGCTGGGGCA
TTGGCTGCGGTCGCAAGGATACCCCTGGAGTTTACACAGAAAGTTAGTTTCTACAAGAAATGGATT

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ATGGCAGGAGAACAGGTCACCGCCAATGTCAGCAGATACCCTGGACAGAAACGATGCTCTTCTGAAAAAC
ATTTCTCCTTTCTTATAGAGCATCACTCCTTGCTGTGTAACACACAGATCCAATAATAGTCGTGGCGAGCTTTT
GAGAGTCAGGTTCTTCCGATTTGACAGCAGGGACCGCAGACCCCAATTCTCCCTTGGTCTCTGGAG
CTGCACTTCTGAAGTCTGGTCCCTCAGGATCTGGCAGGGGTGAAGACCAAGAGAGAGGGGACAGAGA
CACGGCACTGCTGCTATGCATTACGCTGCTCCTTCTGCTGGGATTTGGGTGAGCCCCCAGAAATGGTCT
GTGGCGGCCACAGTCTCATCTGGTATTGCCCTCAGGCTTGGGGCTAGTGTGGGCAGTGGCCCTGGCAGGT
CAGCATCCGCCAGGCTTGATTCAGTCTGCTCAGATACCCCTCATCTCAGAGGAGTGGTGTGACAGTGGCGA
TCTGCTTCCCATATCCCCCACCCCTGATTTCCAAGCAACACATCTAGTGCCATCCTGTGTGTAAGTGGCCT
CCCCAGTTTCTGTAGCCCTGTTGCTCCTGCTCATCTGCCCTTCCCTCATCTGAAGTCTACCTGAAGAATAACAAC
CTCCTGCTGGGTGACTGGGCTACTGGAATATTCAAATATCAAGCGTTCTTATACACTGAAGGAGCT
GAAAGTGCCCTCATTGATCTCCAGACATGCGGTGACCACTATCAAAATGAATCTTGTGACGAGTTGAGCT
CATCATCAGTGAAGCTATGATCTGCTCCAGCTCCAGTGGGGCAGATGATCAGTGTACTGTAAAGATCCACC
CCTCAGGCACCTTTACAGGCCTTGCCCTTCCCCAGTGA

FIG. 1WW

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 MKCLGKRRGQAAFLPLCWLFKLQPGHSHLYNNRYAGDKVIRFIKTEEEAYALKISYQLKVDLWQPSSISYVSEG
 TVTDVHIPQNGSRALLAFLQEANIYKVLIEDLQKLEKSSSLHTQNRRLSGYNYEVYHSLEEIQNMHHHLNKTSH
 GLIHFSGRSYEGRCFLKLGRRSRLKRAVWIDCGIHAREWIGPAFCQWFWKEALLTYKSDPAMRKMLNHLFYIMP
 VFNVGDYHFSWTNDRFWRKTRSRNSRFRRCRGVDANRNWKVKWCGKFGTNDPDKVSAGFTLQNMSPEDSHGR
 LMFFCM

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 MKPLLETLYLLGMLVPGGLGYDRSLAQHRQEIVDKSVPSWLETYSYNIYHPMGEYEMREISEKYKEVTDHFLGV
 TYETHPMYYLKISQPSGNPKKIWMDCGIHAREWIAPFCQWFWKEILQNHKDNSSIRKLLRLNLDYVLPVLNIDGYIT
 WTTDRLWRKSRSPHNGTCFGTDLNRNFNASWCSIGASRNCDDQTCGTGPVSEPETKAVASFIESKKDDILCFLTM
 HSYGQLILTPYGYTKNKSSNHPEMIQVGQKAANALKAKYGTNYRVGSSADILYASSGSSRDWARDIGIPFSYTFELRD
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 MVSNDSTWTVTKNGSGDMIFEGNSEKEIPVLNELPVMVARYIRINPQSWFDNGSICMRMEILGCPLPDPNNYYHR
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 VLGRELLLLVQFVQCEYLARNARIVHLVEETRIHVLPSPNPDGYEKAYEGGSELGGWSLGRWTHDGIDINNFPDLNT
 LLWEAEDRQNVPRKVPNHVIAPEWFLSENATVAETRAVIAWMEKIPFVLGGNLQGGELVAYPYDLVRSPWKTQEH
 TPTPDDHVFRWLAYSASTHRLMTDARRRVCHTEDFQKEEGTVNGASWHTVAGSLNDFSYLHTNCFELSIYVGCDK
 YPHESQLPEEWENNRESLVFMEQVHRGIKGLVRDSHGKIPNAISVEGINHDIRTANDGDYWRLLNPGEYVVTAKAE
 GFTASTKNCMVGYDMGATRCDFTLSTKNMARIREIMEKFGKQPVSLPARRLKLRGRKRRQRG

>SGPr536_1_SEQID_63
 MWRCPLGLLLPLAGHLALGAQQGRGRRELAPGLHLRGIRDAGGRYCEQDLCGRADDCALPYLGAICYCDLF
 CNRTVSDCCPFDWDFCLGVPPFPPIQGCMMHGGRIYPVLGTYWDNCNRCTCQENRQWQCDQEPCLVDPDMIKAIN
 QGNYGWQAGNHSFWMGLDEGIRYRLGTIRPSSVMNMHEITYLNPGEVLPATAFEASEKWPNIHEPLDQGNCA
 GSWAFSTAASVDRVSIHSLGHMTPLVSPQNLSCDTHQQCGRGRDLGAWFLRRRGVSDHCVFSGRERDE
 AGPAPCMHHSRAMGRKQATAHCPNSYVNNNDIYQVTPVYRLGSNDKEIMKELMENGVPQALMEVHEDFFLYK
 GGIYSHTPVSLGRPERYRRHGTHSVKITGWGEETLPDGRTLKYWTANSWGPWGERGHRFRIVRGVNECDIESFVL
 GVWGRVGMEDMGHH

FIG. 2A

>SGPr414_SEQID_64

MCENCADLVEVLNEISDVEGGDLQLRKEHTLKIPTYINSWTQRQCLCCFKEYKHLEIFNQVVCALINLVIAQVQVLRD
 QLCKHCTTINIDSTWQDESNAQEEPLNIDRECNEGSTERQKSIEKKSSTRICNLTEESSKSSDPFSLWSTDEKEKLL
 LCVAKIFIQIFPLYTAYKHNTHTPTIEDISTQESNILGAFCDMNDVEVPLHLLRYVCLFCGKNGLSMKDCFEYGTPELTP
 FLIAHAFITVSNIRIWLHIPAVMQHIIPFTYVIRYLCKLSDQELRQSAARNMADLMWSTVKEPLDTTLCFDKESLDLAF
 KYFMSPTLTMRLAGLSQITNQLHTFNDVCNNESLVSDETETSIAKELADWLISNNVVEHIFGNLHIEIKQCQVILNFLAAE
 GRLSTQHIDCWAQAQLKHCERYIHDLFPSLIKNDLPVPLRHLLNLVSALEPSVHTEQTLYLASMLIKALWNNALAAKAQ
 LSKQSSFASLLNTNIPGNKKEEELRRTAPSPWSPAASQSSDNDTHQSGGSDIEMDEQLINRTKHVQQLSDTEE
 SMQSSDETANSGEDGSSGPGSSGSHDSSNEVNSSHASQSGSPGSEVQSEDIADIEALKEEDEDHGHNPP
 KSSCGTDLNRKLESQAGICLGDSSQGTSENGTSSGTGKDLVFNTESLPSVDNRMRLDACSHSEDPEDHISGEMN
 ATHIAQSQESCITRTGDFLGETIGNELFNCRQFIPQHHHHHHHHHGHMVDMLSADDVSCSSQVSAKSEK
 NMADFDGEESGCEELVQINSHAELTSHLQQHLPNLSIYHEHLSQGPVWHKHQFNNAVTINLDNVCKKGNLTLW
 DIVQDEDAVNLSEGLINEAEKLLCSLVCWFTDRQIRMRFIEGLENLGNRRSVISLRLPKLFGTQFGSSYDTHWIT
 MWAEEKELNMMKLFDFNLVYIQTVREGRQKHALYSHSAEVQVRLQFLTCVFSTLSPDHFRLSLEQVDILWHCLVED
 SECYDDALHWFLNQVRSKDQHMGMEYKHLFEKMPQLKETISMTGLNFQHLNCLARLATSAYDGCNSSELG
 MDQFWGIALRAQSGDVSRRAIQIYINSYINGKTGLEKEQEFISKMESLMIASSLEQESHSSLMVIERGLMLKTHLE
 AFRRRFAYHLRQWQIEGTGISHLKALSDKQSLPLRVVCQAGLPDKMTIEMYPSPDQVADLRAEVTHWYENLQKEQI
 NQQAQLQEFQSNRKGEFPGGLMGPVRMISSGHELTTDYDEKALHELGFKDMQMVVSVLGAPRRERKGEVQLPA
 SCLPPPQKDNIPMLLLQEPHLTTLFDLLEMLASFPPSGKVAVDSESLRCEELHLHAENLSRRVWELMLLPTCPN
 MLMAFQNISDEQSFKAQSDHRSRHEVSHYSMWLLVSWAHCCSLVKSSLADSDHLQDWLKKLTLLIPETAVRHESCSG
 LYKLSLGLDGGDSINRSFLLAASTLLKFLPDAQALKPIRIDDYEEEPILKPGCKEYFWLLCKLVDNIHKDASQTLLDL
 DALARHLADCIRSREILDHQDGNVEDDGLTGLRLATSVVKHKPPFKFSREGQEFRLDIFNLLFLLPSLKDRQPKCKS
 HSSRAAAYDLLVEMVKGSVENYRLIHNWVMAQHMQSHAPYKWDYWPHEDEVRAECRFVGLTNLGATCYLASTIQQLY
 MIPEARQAVTAKYSEDMKHKTTLLELQKMFTYLMSECKAYNPRPFCKTYTMDKQPLNTGEQKDMTEFFTDLITKIE
 EMSPELKNTVKSLFGVITNNVSLDCEHVSQTAEEFYVRCQVADMKNYESLDEVTKDTEGDNMYTCSQCGKKV
 RAEKRACFKKLPRIXSFNTMRYTFNMVTMMKEKVNTHFSFPLRLDMPYTEDFLMGKSERKEGFEVSDHSDKSESY
 EYDLIGVTVHTGTADGGHYYSFIRDVNPWAYKNNKWYLFNDAEVKPFDSAQLASECFGGEMTTKYDVSVDKFMDFS
 FEKTHSAYMLFYKRMEPEEENGREYKFDVSSLELWHDNMQLQDKNIFEHTYFGFMWQLCSCIPSTLPDPKAVS
 LMTAKLSTSFVLETFHSKEKPTMLQWIELLTKQFNNSQAACEWFLDRMADDDWWPMQILIKCPNQVRQMFQRLCIH
 VIQRLRPVHAHLYLQPGMEDGSDMDTSVEDIGGRSCVTRFVRLTLLIMEHGVPKSHKHLTEYFAFLYEFKMGEEES
 QFLLSLQAISTMVHFYMGTKPENPQVEVLSEEEGEEEEEDILSLAEEKYRPAALEKMIALVALLVEQSRSEHRLTL
 SQTDMAALTGGKGFPLFQHIRDGINIRQTCNLIFSLCRYNRLAEHIVSMLFTSIACLTPAANPFFKLLTMLMEFAGG

FIG. 2B

PPGMPFASYILQRIWEIYNPSQCCLDWLAVQTPRNKLAHSWLQNMENWVERFLAHNYPVRTSAAYLLVSLIPS
NSFRQMFRSTRSLHIPTRDLPLSPDTTVLHQVYVNVLLGLLSRAKLYVDAAVHGTTKLVYFYSFMTYCLISKTEKLMFS
TYFMDLWNLFQPKLSEPAIATNHNKQALLSFYWNVCADCPENIRLVQNPVTKNIAFNILADHDDQDVLFNRGMLP
AAYGILRLCCEQSPAFTRQLASHQNIQWAFKNLTPHASQYPGAVEELFNLMLQFIAQRPDMREEELEDIKQFKKTTISC
YLRCLDGRSCWTTLSAFRILLESDEDRLLVFNRLGLMTESFNTLHMMYHEATACHVTGDLVELLSIFLSVLKSTRPY
LQRKDVQALIQWQERIEFAHKLLTLNYSYPPPELRNACIDVLKELVLLSPHDFLHTLVFPLQHNHCTYHHSNIPMSLGP
YFPCRENKILGKSNIRPPPELNMCLPTMVETSKGKDDVDRMLLDYFFSYHQFIHLLCRVAINCEKFTETLVKLSV
LVAYEGLPLHLALFPKLWTEL CQTQSAMSKNCIKLLCEDPVFAEYKICILMDERTFLNNNIVYTFMTHFLKVSQVFE
ANCANLISTLNLISQYNLQSDFSNRVEISKASASLNGDLRALALLSVHTPKQLNPALIPTLQELLSKCRTECLQQRNS
LQEQEAKERKTKDDEGATPIKRRRVSSDEEHTVDSICDMKTETREVL TPTSTSDNETRDSIIDPGTEQDLPSPENSS
VKEYRMEVPSSFSEDMNIRSQAEEQSNNGRYDDCKEFDLHCSKSDSTLAESESEFPSTISAVLSDLADLRSCDG
QALPSQDPEVALSLSCGHSRGLFSHMQQHDILDTLCRTIESTIHVWTRISGKGNQAAS

>SGPr430_SEQID_65

MSPLKIHGPIRISMQTGITKWKEGFEIVEKENKVS LVHYNTGGIPRIFQLSHNIKNVLRPSGAKQSRLMLTLQDNS
FLSIDKVPKDAEEMRLFLDAVHQNRLPAAMKPSQGGSGFGAILGSRTSQKETSRLSYSDNQASAKRGSLETCKDDIP
FRKVLGNPGRGSIKT VAGSGIARTIPSLTSTSTPLRSGLLENRTKTRKMISTGSELNEDYPKENDESSNNKAMTDPSR
KYLTSREKQLSLKQSEENRTSGGLPLQSSSFYGSRAGSKEHSSGGTNLDRTNVSSQTPSAKRSGLFPQVPVPLSV
KKLRCNQDYTGWNKPRVPLSSHQQQQLQGFSNLGNTCYMNAILQSLFSLQSFANDLLKQGIPWKKIPLNALIRFAHL
LVKDDICNSETKKDLLKVKNAISATAERFSGYMQNDAHEFLSQCLDQLKEDMEKLNKTWKTEPVSGEENSPDISATR
AYTCPVITNLEFEVQHSIICKACGEIIPKREQFNLDLIDLPRKKPLPPRSIQDSDLFFRAEELEYSCCKGKCALVRH
KFNRLPRVLILHLKRYSFNVALSLNNKIGQQVIIPRYLTLSSHCTENTKPPFTLGWSAHMAMSRPLKASQMVNSCITSPS
TPSKKFTFKSKSSALCLDSDSEDELKRSVALSQRCEMLGNEQQQEDLEKDSKLCPIEPDKSELENSGFDRMSEEL
LAAVLEISKRDASPSLSHEDDDKPTSSPDTGFAEDDIQEMPENPDTEKPKTTITELDPASFTETKDCDENKENKTP
EGSQGEVDWLQQYDMEREREELQALAQSLQEAEQEKEDDLKRATELSLQEFNNSFVDALGSDDEDSGNE
DVFDMEYTEAEAEELKRNAETGNLPHSYRLISVSHIGSTSSSGHYISDVYDIKKQAWFTYNDLEVSKIQAQVQSDRD
RSGYIFFYMHKEIFDELLETEKNSQSLSTEVGKTTTRQAS

>SGPr496_1_SEQID_66

MTLLAPWYTGPMIPMDVNEPSSVTTAPTLSLQHISSFLATGKLSLHFGHPRECEVTRIDDKNRRGLEDSEPGAKL
FNNDGVCCCLQKRGPNITSVCSPRTLQISVFLSEKYEYGVKFESDELFPFGVIGSNIGDAHFEFRAGISWKPVVDP
DDPIQFPDCCSSSSRIPSVSLVAVPLVAGHKGAFIERMLGCFKELKQELTQEGPGGGHPRSAWPPRRHAQWP

FIG. 2C

PEPCEQGEPPVAAEEVEAEAEAKERKVEAEAKVEGKAEAAAGKAEAGKVDATEKVVETAGKVDAAGKVETAEG
 PGRRAELKLEPEPEPVREAEQEPKQELEDENPARGGGNSDEVPPPTLPDPPRPDPSPRRRAPRRPRPQ
 TRLRTPQPRPPRRPPRGPGGGCLDVDFAVGPPGCSHVNSFKVGENWRQELRVYQCFFVWCGTPETRKSKA
 KSCICHVCGTHLNRHSLSCVFFGCFTEKIHHEAETKQHNLAVDLYYGGIYCFMCKDYVDKIEQIAKEEQGEALK
 LQASTSTEVSHQQCSVPGLGEKFTWETTKPELELGHNPRRRRITSSFTIGRLINLGNTCFMNCIVQALHTHPILRD
 FFLSDRHRCEMPPELCLVCEMSSLFRELYSGNPSPHVPYKLLHLVWIHARHLAGYRQQDAHEFLAALDVLHRHCKG
 DDVGKAANNPNHCNIDQIFTGGLQSDVTCQACHGVSTTIDPCWDISLDLPGSCTSFWPMSPGRESSVNGESHIPGI
 TTLTDCLRRFRTRPEHLGSSAKIKGSCQSYQESTKQLTMNKLVPVACFHFKRFEHSAKQRRKITYISFPLELDMTPFM
 ASSKESRMNGQLQLPNTSGNNENKYSLFAVNVHQGTLESGHYTSFIRHHKDQWFKCDDAVITKASIKDVLDSSEGYYLLF
 YHKQVLEHESEKVKEMNTQAY

>SGPr495_SEQID_67

MRVKDPTKALPEKAKRSKRPTVPHDESDDDIAVGLTCQHVSHAISVNHVKRAIENLWSVCSECLEERRFYDQQLVL
 TSDIWLCLKCGFGCGKNSESHLKHFKSSRTEPHCIINLSTWIIWCYECDEKLSTHCNKKVLAQIVDFLQKHASKT
 QTSAFSRIMKLCCEKCETDEIQKGKCRNLVSRGITNLGNTCFNNAVMQNLAQTYTLTDLMEIKESSTKLKIFPSSDS
 QLDPLVELSRPGPLTSALFLHSMKETEKGPLSPKLVFNQLCQKAPRFKDFQQQDSQELLHYLLDAVRTEETKRIQ
 ASILKAFNNPTTKTADDETRKKVKISTVKDPFIDISLPIEERVSPLLVGRMNKYRSLRETDHRYSGNVTIENIHQPR
 AKKHSSKDKSQLIHDRKIRKLSSETVYQKNENLEMNGDSLMAFSLMSESLNESPTDDSEKEASHSESNVDA
 DSEPESEASQKTGLFRSSSGGVQPDGPLYPLSAGKLLYTKETDSGDKEMAEISELRSLSTVTGDDQDFDRENQ
 LNISNNLCFLEGKHLRSYSPQNAFQTLSSQSYITTSKECSIQSCLYQFTSMELLMGNNKLLCENCTKNKQYQEETSFAE
 KKVEGVYTNARKQLLISAVPAVLILHLKRFHQAGLSLRKVNHRHVDPLMLDLAPFCSATCKNASVGDKVLGYLGIVEH
 SGSMREGHYTAYVKVRTPSRKLSEHNTKKNVPGLKAADSESAGQWVHVSDTYLQVPESRALSAQAYLLFYERV

>SGPr407_SEQID_68

MEYPVPYFRSPNRTLIPERIWSNPLLVIAKYKTVSWPRQQLAKQANKWMPFVIPSKTLPWDPLELKICYQQNRPYPS
 PDPSNFPTFLRCLNAFSAAVFYLPQPSWHKPEGLKPAGYPRVPDIPYGGYTLKSTTEAAGLHQSLPMVQLPLHPTKG
 SALLKESELNDADWANLWKRYLEEQEDSKMVDLFGQMKSYLKCQACGYHSMTFKVFFCDLSLTIPKKGFAGGK
 VSLRDCLSLFTKEEELELENASGTLVTKSEVLSTSCVPFGTTQAASTVATTQPCASARLVGFTMTLVSPNLTRDTE
 GIELTVMKALVDILFKASTDIILFNHDSSGNKWRKLPEPGGLEKKHEELRLRPLKEEYHWLVLPKLKLGSPHRWRP
 RKRALASCWSCLQRVTMRVMGVQDKAGNRNQMLLQRPVIGDTSNSQTTTRDKACRRPPSHSVFTQSSFWACL
 DPDLFFYGHQSYWMKAHLNDLILREGPVTQMAQSFYWGFPAGGNLSALEMLPDGPAPRTFLQKKSCLFPLFSYILLH
 KAGKLFQPDAGHFLVKVHAPTRGIVFIMEPRQLGGKSLKLQPACALGGMNSGMEPQKSAPFAAGKGLAPPLPVC

FIG. 2D

NLRFKLRVYKFEELWSRAGLGKKSDNHSSRQMPWGAAGVACQHPCKLPRIVAEITPPKLSFGFLNTVQSSVLPTSL
SQFFLNDSQPEEAIPQSLPGSPRTNSFPKDKFVPKDKLVLSLLTMYELDRLF

>SGPr453_SEQID_69

MLAMDTCKHVQQLAQDHSNLNPQKWHCVDCNTTESIWACLSCSHVACGRYIEEHALKHFQESSHPVALEVNEMY
VFCYLCDDYVLNDNATGDLKLLRRTLSAIKSQNYHCTTRSGRFLRSMGTGDDSYFLHDGAQSLLQSEDQLYTALWHR
RRILMGKIFRTWFEQSPIGRKQKEEPFQEKIVKREVKKRRQEELEYQVKAELSMPPRKSLRLQGLAQSTIIEIVSVQVP
AQTPASPAKDKVLSTSENEISQKVSQVSRKRPVTPGVTGLRNLGNTCYMNSVLQVLSHLLIFRQCFLKLDLNQWLA
MTASEKTRSCKHPPVTDTVYQMNCEQEKDGTGFCVSRQSSLSGLSGGASKGRKMELIQKEPTSQYISLCHLHTL
FQVMWSGKWALVSPFAMLSVWRLIPAFRGYAQQDAQEFLCELLDKIQRELETTGTSLPALIPTSQRKLIKQVLNVN
NIFHGQLLSQVTCACDNKSNITIEPFWDLSEFFERYQCSGKDIAQQCLVTEMLAKFTETEALLEGKIYVCDQCNSKRR
RFSSKPVLTEAQQLMICHLPQVLRHLKRFWRWSGRNNREKIGVHVGFEEILNMEPYCCRETLKSLRPECFIYDLSAV
VMHHGKGFSGGHYATAYCYNSEGGFWVHCNDSKLSMCTMDEVCKAQAYILFYTQRVTENGHSHKLLPPELLGSGQHPN
EDADTSSNEILS

>SGPr445_SEQID_70

MRVKDPTKALPEKAKRSKRPTVPHDEDSSDDIAVGLTCQHVSHAISVNHVKRAIENLWSVCSECLEERRFYDQQLVL
TSDIWLCLKCGFQGGKNSQSLKHFKSSRTEPHCIINLSTWIWCYECDEKLSTHCNKVLAQIVDFLQKHASKT
QTSAFSRIMKLCCEKCEETDEIQGGKCRNLVSRGITNLGNTCFFNAVMQNLAQTYTLTDLMEIKESSTKLKIFPSSDS
QLDPLVVELSRPGPLTSALFLFLHSMKETEGPLSPKVLFNQLCQKRVHLHLI

>SGPr401_1_SEQID_71

MTVRNIASICNMGTNASALEKDIGPEQFPINEHYFGLVNFNGNTCYCNSVLQALYFCRPFRENVLAYKAQQKKENLLTC
LADLFHSIATQKKVGVIPPKFISRLRKENDLFDNMQQDAHEFLNYLLNTIADILQEEKQKQNGKLNKGNMNEPA
ENNKPELTWVHEIFQGLTNETRCLNCETVSSKDEDFDLSDVDEQNTSITHCLRDFSNTETLCSEQKYCETCCSKQ
EAQKRMVRVKLPMVLALHLKRFKYMQLRRTYTKLSYRVVFPLELRLFNTSSDAVNLDRLMYDLVAVVHCGSGPNRGRH
YITVKSJHGFWLLFDDDIVKIDAKAIEEFYGLTSDISKNSSEGYILFYQSRE

>SGPr408_SEQID_72

MVPGREENQLVPKEAPLDHTSDKSLLDANFEPGKKNFLHLTDKDGEQPKILLEDSSAGEDSVHDFRFIGPLREGSVGST
SDYVSQSYSSYSSILNKSETGYVGLVNQAMTCYLNLLQLTFMTPEFRNALYKWEFESEEDPVTIPYQLQRLFVLLQT
SKKRAIETTDVTRSFSGWDSSEAWQQHDVQELCRVMFDALQKWKQTEQADLINELYQGKLDYVRCLECGYEGWRI

FIG. 2F

DTYLDIPLVIRPYGSSQAFASVEEALHAFIQPEILDGPNQYFCERCKKKCDARKGLRFLHFPYLLTLQLKRFDFDYTTMH
RIKLNDRMTFPEELDMSTFIDVEDEKSPQTESCTDGAENEGSCHSDQMSNDFSNDGVDGICLETNSGTEKISKS
GLEKNSLIYELFSVMAHSGSAAAGGHYYACIKSFSDQWYFDDQHVSRITQEDIKTHGGSSGRGYSSAFASSTNA
YMLIYRLKDPARNAKFLEVGEYPEHIKNLVQKERELEEQKQREIERNTCKIKLFCLHPTKQVMENKLEVHKDKTLK
EAVEMAYKMMDLEEVIPDCCRLVKYDEFHDYLSRYEGEEDTPMGLLLGGVKSTYMFDLLLETRKPDQVQFQSYKPG
EVMVKVHVVDLKAESVAAPITVRAYLNQVTTEFKQLISKAIHLPAETMRIVLERCYNDLRLSVSSKTLKAEGFFRSNKV
FVESSETLDYQMAFADSHLWKLDRHANTIRLFVLLPEQSPVYSKRTAYQKAGDGSNVDDDCERVKGPGVGLKSV
EAILLEESTELKLSLQQQDGDNGDSSKSTETSDFENIESPLNERDSSASVDNRELEHQHIQTSDPENFQSEERSDSD
VNDRSTSSVDSDILSSSHSDTLNADNAQIPLANGLDSSHITSSRRTKANEGKETWDTAEEDSGTDSYDESGKS
RGEQMYFYKAEPYAADEGSGEHGWLMVHVDKRITLAAFKQHLEPFVGLSSHFKVFRVYASNQEFESVRLNETL
SSFSDDNKITIRLGRALKKGEYRVKVYQLLVNEQEPCKFLLDVFAKGMTVRQSKEELIPQLREQCGLELSIDRFRLRK
KTWKNPGTVFLDYHIYEEDINISSNWEVFEVLVDGVEKMKMSQLAVLSRRWKPSEMKLDPFQEVVLESSSVDELREK
LSEISGIPLDIEFAKGRGTFCDISVLDIHQDLDNWPKVSTLNVWPLYICDDGAVIFYRDKTEELMELTDEQRNELMKK
ESSRLQKTGHRVTYSPRKEKALKIYLDGAPNKDLTQD

>SGPr480_SEQID_73

MGAKESRIGFLSYEEALRRVTDVELKRLKDAFKRTCGLSYMGQHCIFREVLGDGVPKVAEVIYCSFGGTSKGLHFN
NLIVGLVLLTRGKDEEKAKYIFLSFSSSEGNVIREEMERMLHVVDGKVPDTLRKCFSEGEKVNYEKFNRWLFLNKDAF
TFSRWLLSGGVVTLTDDSDTPTFYQTLAGVTHLEESDIIDLEKRYWLLKAQSRTRGRDLETFGPLVSPPIRPSLSEGL
FNAFDENRDNHIDFKEISGLSACCRGPLAERQKFCFKVFDVDRDGLSRVELRDMVVALLEVWKNRDTDDIPELHM
DLSDIVEGILNAHDTTKMGHLTLEDYQIWSVKNVLANEFLNLLFQVCHIVLGLRPATPEEGQIIRGWLERESRYGLQA
GHNWFIISMQWWQWKEYVKYDANPVVIEPSSVLNGGKYSFGTAHPMEQVEDRIGSSLSYVNTTEEFSDNISTAS
EASETAGSGFLYSATPGADVCFARQHNTSDNNQCLLGANGNILLHLPKPGKGAIDNQPLVTQEPVKATSLTLEGRL
KRTPLIHGRDYEMVPEPVWRALYHWYGANLALPRPVKNKSDIPELELFPYLLFLRQQPATRTQQSNWVNMGNV
PSPNAPLKRVLAYTGCFSRMQTIKEIHEYLSQRLRIKEEDMRLWYNSENYLTLLDDEDHKLLEYLKIQDEQHLVIEVRNK
DMSWPEEMSFIANSSKIDRHKVPTEKGATGLSNLGNTCFMNSSIQCVSNTQPLTQYFISGRHLYELNRTNPIGMKGHM
AKCYGDLVQELWSGTQKNVAPLKLRTIAKYAPRNFNGFQQQDSQELLAFLLDGLHEDLNRVHEKPYVELKSDSDGRP
DWEVAAEAWDNHLRRNRSIVDLFHGQLRSQVKCKTCGHISVRFPDFNFLSLPLMDSYMHLITVIKLDGTTTPVRYG
LRLNMDEKYTGKKQLSDLCGLNSEQILLAEVHGSNIKFPQDNQKVRLSVSGFLCAFEIPVPVSPISASSPTQTDSS
SPSTNEMFTLTNGDLPRPIFIPNGMPNTVPCGTEKNFTNGMVNGHMPSLDPSPTGYIAVHRKMMRTELYFLSSQ
KNRPSLFGMPLIVPCTVHTRKKDLYDAVWIVQSRLASPLPQEAASHAQDCDDSMGYQYPFTLRVWQKDGNSCAWC
PWYRFCRGCKIDCGEDRAFIAGNAYIAVDWDPTALHLRYQTSQERVVDEHESVEQSRRAQAEINLDSCLRAFTSEEL

FIG. 2F

GENEMYCSKCKTHCLATKLDLWRLPILIIHLKRFQVNGRWIKSQKIVKFPRESFDPFAFLVRDPALCQHKPLTP
 QGDELSEPRILAREVKVDAQSSAGEEDVLLSKSPSSLSANISSPKGSPSSRKSGTSCPSKNSSPNSSPRTLGRS
 KGRLRLPQIGSKNKLSSKENLDASKENGAGQICELADALSRGHVLGGSQPELVTPQDHEVALANGFLYEHEACGNG
 YSNGQLGNHSEEDSTDQREDTRIKPIYNLYAISCHSGILGGHYVTYAKNPNCWKWYCYNDSSCKELHPDEIDTDSAY
 ILFYEQQGIDYAQFLPKTDGKMKMADTSSMDEDFESDYKKYCVLQ

>SGPr431_SEQID_74

MDKILEGLVSSSHPLPLKRVIVRKVVESAHEHWLDEAQCEAMFDLTTRLILEGQDPFQRQVGHQVLEAYARYHRPEFES
 FFNKTFVLGLLHQGYHSLDRKDVAILDIHNGKLIMSCPSVLDLFSLLQVEVLRMVCPERPQLCARLSDLLTDFVQCI
 PKGKLSITFCQQLVRTIGHFQCVSTQERELREYVSQTKVSNLLQNIWKAEPATLLPSLQEVFASISSTDASFPSVALA
 SLVQHIPLQMITVLIRSLTTDPNVKDAASMTQALCRMIDWLSWPLAQHVDTWVIALLKGLAAVQKFTILIDVTLKKIELVFN
 RLWFLVRPGALAVLSHMLLSFQHSPEAFHLIVPHVWNLVHSFKNDGLPSSTAFLVQLTELIHCHMMYHSGFPDLYEPI
 LEAIKDFPKPSEEKIKILNQSAWTSQNSLASCLSRLSGKSETGKTGLNLGNTCYMNSVIQALFMATDFRRQVLSLNL
 NGCNSLMKQLQLFAFLAHTQREAYAPRIFFEASRPWFTPRSQQDCSEYLRFLDLRLHEEEKILKVQASHKPSEILEC
 SETSLQEVASKAAVLTTETPRTSDGKTLIEKMFGGLRTHIRCLNCRSTSQKVEAFTDLSLAFCPSSLENMSVQDPAS
 SPSIQDGLMQASVPGPSEEPVYNPPTAAFCDSLNEKTIGSPNEFYCSENTSVPNESNKILVNKDVPQKPGGET
 TPSVTDLLNYFLAPEILTGDNQYCYENCASLQNAEKTMQITEEPEYLITLLRFSYDQKYHVRKILDNVSLPLVLELPVK
 RITSFSSLSSESWSVDVFTDLSENLAKKLPSTDEASCTKLVYLLSSVWHSGISSESGHYYSYARNITSTDSSYQM
 YHQSEALALASSQSHLLGRDSPSAVFEQDLENKEMSKWFLNDSRVFTTSFQSVQKITSRFPKDTAYVLLYKKQHST
 NGLSGNNPTSGLWINGDPPLQKELMDAITKDNKLYLQEQELNARARALQAASCSFRPNGFDDNDPPGSCGPTGG
 GGGGFFNTVGRLVF

>SGPr429_SEQID_75

MAPRLQLEKAAWRWAETVRPEEVSQEHETAYRIWLEPCIRGVCRRNCKGNPNCLVGIGEHWLGEIDENSFHNIDDP
 NCERRKNSFVGLTNLGATCYVNTFLQVWFLNLELRQALYLCPTCSDYMLGDGQEEKDYEPQTICEHLQYLFALLQ
 NSNRRYIDPSGFVKALGDTGQQQDAQEFSKLFMSLLEDTLQKKNPDVRNIVQQQFCGEYAYVTVCNQCGRESKLL
 SKFYELELNIQGHKQLTDCISEFLKEELEGDNRYFCENCQSKQNAIRKIRLLSLPCTNLQLMRFVDRQTGHKKLN
 TYIGFSEILDMEPYVEHKGGSYYELSAVLIHRGVSAYSGHYIAHVKDPQSGGEWYKFNDEDIEKMEGKQLGLGIEEDLE
 PSKSQTRKPKCGKGTCHSRNAYMLVYRLQTQEKPNTTVQVPAFLQELVDRDNSKFEWCIEMAEMRKQSVDKGKAK
 HEEVKELYQRLPAGAEPEYFVSLEWLQKWLDSTPTKPIDNHACLCSDHKLHPDKISIMKRISYAADIFYRYGGGPR
 LTVKALCKECVVERCRILRLKNQLNEDYKTVNNLLKAAVKGDFWVGKSLRSWRQLALEQLDEQDGAEQSNGKM
 NGSTLNKDESKEERKEEELNFNEDILCPHGELCISENERRLVSKAEAWSKLQYFPAKEFPYSYKECCSQCKILEREG

FIG. 2G

EENEALHKMIANEQKTSLPNLFQDKNRPCLSNWPEDTDVLYVQSFFVEEWRKFVRKPTRCSPVSSVGNALLCPHG
GLMFTFASMTKEDSKLIALWPSEWQMIQKLFVVDHVKITRIEVDVNPSETQYISEPKLCPECREGLLCQQQRDLREY
TQATYVHKVDNKKVMKDSAPELNVSSSETEEDKEEAKPDGEKDPDFNQSGGTRQKISHQNYIAYQKQVIRRS
RHRKVRGEKALLVSANQTLKELKIQIMHAFSVAPFDQNLSDGKILSDDCATLGTGVIPEVILLKADEPIADYAAAMDDV
MQVCMPEEGFKGTGLLGH

>SGPr503_SEQID_76

MLSSRAEAAMTAADRAIQRLRTGAAVRYKVMKNWGVIGGIAAALAAGIYVIWGPITERKKRRKGLVPLVNLGNTCF
MNSLLQGLSACPAFIRWLEETSQYSRDQKEPPSHQYLSLTLLHLLKALSCQEVTDDEVLDASCLLDVLRMYRWQISS
FEEQDAHELHFVITSSLEDERDRQPRVTHLFDVHSLEQQSEITPKQITCRTRGSPHPTSNHWKSHQPFHGRLTSMNV
CKHCEHQSPVRFDTFDSLSSIPAAATWGHPLTLDHCLHHFISSESRDVVCDNCTKIEAKGTNGEKVEHQRTTTFVKQ
LKLGLPQCLCIHLQRLSWSSHGTPLKRHEHVQFNEFLMMDIYKYHLLGHKPSQHNPKNPNPPTLELQDGPAPT
PVLNQPGAPKTQIFMNGACSPSLPTLSAPMPFPLVPVDPYSSSTYLFRLMAVWVHHGDMHSGHFVYRRSPPSARN
PLSTSNQWLWSDDTVRKASLQEVLS SAYLLFYERVLSRMQHQSCECKSEE

>SGPr427_SEQID_77

MDLGPDAAGGGLAPRPRRRRLRFLFRLLALGSRSPGDSPPRPQPGHCDGDGEGGFACAPGPVPAAPGSP
GEERPQGPQQLPAGDGARPPGAQGLKNHGNTCFMNAVQCCLNTDLLAEFLALGRYRAAPGRAEVTEQLAALV
RALWTRREYTPQLSAEFKNAVSKYGSQFQGN SQHDALEFLWLLDRVHEDLEGSSRGPVSEKLPPEATKTSNCLSPS
AQLPLGQSFVQSHFQAQYRSSLTCPHCLKQSNFTDFPFLCVSLPIRQTRFLSVTLVFPKSKQRFLRVGLAVPILSTVA
ALRKMVAEEGGVPADDEVILVELYPSGFQRSFFDEEDLNTIAEGDNVYAFQVPPSPSQGTLSAHPGLSASPRLAAREG
QRFSLSHSESKVILFCNLVSGGQASRFGPPFLIREDRAVSWAQLQQSILSKVRHLMKSEAPVQNLGSLFSIRVVGL
SVACSYLSPKDSRPLCHWAVDRVLHLRRPGPPHVKLAVEWDSSVKERLFGSLQEERAQDADSVWQQQAHHQH
SCTLDECFFQYTKEEQLAQDDAWKCPHCQVLQQGMVKLSLWTLPDILIIHLKRFQCVGERRNKLSTLVKFLSGLNMA
PHVAQRSTPEAGLGPWPSWKQPDCLPTSYPLDFLYDLYAVCNHHGNLQGGHYTAYCRNSLDGQWYSYDDSTVEP
LREDEVNTRGAYILFYQKRNSIPPWSASSSMRGSTSSSLSDHWLLRLGSHAGSTRGSLLSWSSAPCPSLPQVPDSPIF
TNSLCNQEKGGLPRRLVRGVKGRSISMKAPTTSTRAKQGPFTMPLRWSFGSKEKPPGASVELVEYLESRRRPRST
SQSIVSLLTGTAGEDEKASPRSNVALPANSEGGRAIERGPAVPCPSAQPNHCLAPGNSDGPNTARKLKENAGQD
IKLPRKFDLPLTVMPSEHEKPARPEGQKAMNWKESFQMGSKSSPPSPYMGFSGNSKDSRRGTSELDRLPQGTTLT
LRSVFRKKENRRNERAEVSPQVPPVSLVSGGLSPAMDGQAPGSPPALRIPEGLARGLSRLERDVWSAPSSLRPLR
KASRAPRGSALGMSQRTVPGEQASYGTFQRVKYHTLSLGRKKTLPESFF

FIG. 2H

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>SGP1092_SEQID_78
MQLVILRVTFILPWCFAPVPPAADHKGWDFVEGYFHQFFLTKKESPLLQTETQTQLLQQFHRNGTDLLDMQMHAL
HQPCHGVPDGSDDTSISGRCKWNKHTLTYRIINYPHDMKPSAVKDSIYNAVSIWSNVTPLFQQVQNGDADIKVSWFQ
WAHEDGWPFDPGGILGHAFLPNSGNPGVWHFDKNEHWSASDTGYNLFLVA THEIGHSLGLQHSGNQSSIMYPTYW
YHDPRTFQLSADDIQRHQHLYGEKCSSDIP

>SGPr359_SEQID_79
MKVLPASGLAVFLIMALKFSTAAPSLVAASPRTRWNNYRLAQAYLDKYTYTNKEGHQIGEMVARGSNSMIRKIKELQAF
FGLQVTGKLDQTTMNVIKPRCGVPDVANYRFLPGEPKWKKNLTLYRISKYTPSMSSVEVDKAVEMALQAWSSAVPL
SFVRINSGEADIMISFENGHDGDSYPFDGPRGTLAHAFAPGEGGLGDTHFDNPEKWTMGTFNGLFTVA AHEFGHAL
GLAHSTDP SALTMYPTYKYKNPYGFHL PKDDVKGIQALYGPRKVFLGKPTLPHAPHHKPSIPDLCDSSSFD AVTMLGK
ELLLFKDRIFWRRQVHLRTGIRPSTITSSFPQLMSNVDAAYEVAERGTAYFFKGPHYWITRGFQMGGPPRTIYDFGFP
RHVQQIDAAVYLREPQKTLFFVGDEYYSYDERKRKMEKDYPKNTEEEFSGVNGQIDA AVELNGYIYFFSGPKTYKYDT
EKEDVWSWKSSSWIGC

>SGPr104_1_SEQID_80
MNVALQELGAGSNMVEYKRATLRDEDAPETPVEGGASPDAMEVGFQKGRQLLGSRTQLELVLAGASLLAALLGC
LVALGVQYHRDPSHSTCLTEACIRVAGKILES LDRGVSPCEDFYQFCGGWIRRNPLPDGRSRWNTFNSLWDQNQAI
LKHLLENTTFNSSSEAEQKTQRFYLSCLQVERIEELGAQPLRD LIEKIGGWNITGPWDQDNFMEVLKAVAGTYRATPFF
TVYISADSKSSNSNVIQVDQSGFLPSRDYLYNRTANEKVL TAYLDYMEELGMLLGGRTSTREQMQQVLELEIQLANI
TVPQDQRRDEEKIYHKMSISELQALAPSMDWLEFLSFLSPLSDSEPVVYGM DYLQQVSELINRTEPSILNNYLIW
NLVQKTTSSLD RRFESAQEKLLETLYG TKKSCVPRWQTCISNTDDALGFALGSLFVKATFDRQSKEIAEGMISEIRTAF
EEALGQLVWMDEKTRQAAKEKADAIYDMIGFPDFILEPKELDDVYDGYEISED SFFQNMLNLYNFSAKVMADQLRKPP
SRDQWSMTPTQTVNAYYLP TKNEIVFPAGILOAPFYARNHPKALNFGGIGVVMGHELTHAFDDQGGREYDKEGNLRPW
WQNESLAAFRNHTACMEEQYNQYQVNGERLNGRQTLGENIADNGGLKAAYNAYKAWLRKHGEEQQLPAVGLTNHQ
LFFVGFAQVWC SVRTPESSHEGLVTDPHSPARFRVLGTL SNRDLRHFHFGCPVGSMPNPGQLCEVW

>SGPr303_SEQID_81
MPEKRPFERLPADVPINCSLCLKPDLDDFTFEGKLEAAQAQRQATNQIVMNCADIDIITASYAPEGDEEIHATGFNYQN
EDEKVTLSFPSTLQTGTGLKIDFVGELNDKMGFYRSKYTTPSGEVRYAAVTQFEATDARRAFPCWDERAIKATFDIS
LVVPKDRVALSNMNVDRKPYDDENLVEVKFARTPTSTYL VAFVWGEYDFVETRSDGVCVCVYTPVGKAEQKGF
ALEVAAKTLPFYNDYFNVPYPLPKIDLIAIADFAAGAMENWDLV TYRETALLIDPKNSCSSSRQWVALVVGHEL AHQWF

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FIG. 21

GNLVTMEWWTHLWLNIEGFASWIEYL CVDHCFPEYDIWTQFVSADYTRAQELDALDNSHPIEVSVGHPSEVDEIFDAIS
YSGASVIRMLHDYIGDKVKKKTL SI

>SGPr402_1_SEQID_82
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VVQQSLTPHWGHHHLKKNPKVQWFQQQLQRRVKRSVVPTDPWFSKQWYMNSEAQPDLSILQAWSQGLSGQG I
VSVLDDGIEKDHPDLWANYDPLASYDFNDYDPDPQPRYTPSKENRHGTRCAGEVAAMANNNGFCGVGVAFNARIGG
VRMLDGTITDVIEAQSLSLQPQHIHYSASWGPEDDGRITVDGPGILTREAFFRRGVTKGRGGLGLFIWASGNGGLHYD
NCNCDGYTNSIHTLSVGSTTQQGRVPWYSEACASTL TTTYSSG VATDPQIVTDLHHGCTDQHTGTSASAPLAAGMI
ALALEANPFL TWRDMQHLVVRASKPAHLQAEDWRTNGVGRQVSHHYGYGLLDAGLLVD TARTWLPTQPQRKCAVR
VQSRPTPIPLIYIRENV SACAGLHNSIRSLEHVQAQLT LSYRRGDLEISL TSPMGTRSTLVAIRPLDVSTEGYNNWVF
MSTHFWDENPQGVWTLGLENKGYFNTGLTRYTLLYGTAE DMTARPTGPQVTSSACVQRDTEGLCQACDGPAYI
LGQLCLAYCPRFFNHTRLVTAGPGHTAAPALRVCSCHASCYTCRGGSPRDCTSCPPSSTLDQQQGGSCMGPTTPD
SRPRLRAAACPHHRCPASAMVLSLLAVTLGGPVL CGMSMDLPLYAWLSRARATPTKPVVWLPAGT

>SGPr434_SEQID_83
GPGRQGGCAGRRSTALPLRAPLRARRPGPRSERMGAATCRGSRIPSPVPVQGERSAPRFGVTSLSLWPADFKDNW
RIAGSRQEV ALAGEPADQQQLRLPYRQTLGYKEDTTNPVCGEPWVSEDIEMTRHWPWEVSLRMENEHVCGG
ALIDPSWVVTAAHCSQGTKEYSVVLGTSKLQPMNFSRALWVPVRDIIMHPKYWGRAFIMGDVALVHLQTPVTFSEYV
QPICLPEPNFNLKVGTCWVTGWSQVKQRFSGSTANSMLTPELQEA EVFIMDNKRCDRHYKKSFPPVPLVLGDMI
CATNYGENLCYGDGGPLACEVEGRWILAGVLSWEKACVKAQNPGVYTRITKYTKWIKKQMSNGAFSGPCASACLLF
LCWPLQPQMGS

>SGPr446_1_SEQID_84
ILTPVCGRTPLRIVGGVDAEEGRWPWQVSVRTKGRHICGGTLVTATWVLTAGHCISRFHYSVKMGDRSVYNENTSV
VVSVQRA FVHPKFSTVTIRNDLALLQLQHPVNFTSNIQIPICIQENFQVEGRTRCWVTGWGKTPERGEKLA SEILQDV
DQYIMCYEECNKIQKALSS TKDVIKGMVCGYKEQKDKSCQGDGGR LACEYNDTWVQVGVSWGIGCGR

>SGPr447_SEQID_85
MGARGALLALLARAGLGKPEACGHRHIALVAGGVESARGRWPWQASLRLRRHRRCGSSLR RWWLSAAHCF
QKHYYPSEWTVQLGELTSRPTPWNLRAYSSRYKVQDIIVNPDALGVLRNDIALLR LASSVTYNAYIQICIESSTFN FVH

FIG. 2J

RPDCWWTGWLISPGTLPPLPYNLREAQVTILNTRCNLYFEQPSSRSMIWDMSMFCAGAEAGSDTKGDSGGPL
VCDKDWYQVGVSWGMDCGQPNRPGVYTNISVYFHWIRRMVMSHSTPRNPSQLLLLLLWAP

>SGPr432_1_SEQID_86

MGSTWSPGWRLALCLTGLVSLYALHVKAARDRDYRALCDVGTASCSRVFSSRWGRGFLVEHVLGQDSIL
NQNSIFGCIFYTLQLLLGLQAAQRACGQRPKPQEGNTVPGWEPWQASVRRQGAHICSGSLVADTWVLTAAH
CFEKAATELNSWSVWLGSLQREGSPGAEEVGVAALQLPRAYNHYSQGSDALLQLAHPHTHTPLCLPQPAHRFPF
GASCWATGWDQDTSAPGTLRNLRLISRPTCNCIYNQLHQRHLSNPARPGLCGPQPGVQGPCQGDSGGPVL
CLEPDGHVWQAGISFASCAQEDAPVLLTNTAAHSSWLQARVQGAFLAQSPETPEMSDEDESCVACGSLRTAGPQ
AGAPSPWPEARLMHQGLACGGALVSEEAULTAAHCFIGRQAPPEWSVGLGTRPEEWGLKQLIHGAYTHPEGG
YDMAILLAQPVTLGASLRPLCLPYDPDHLDPDGERGWLGRARPAGISSLTQVPTLLGPRACSLHAAPGGDGSPI
LPGMVCTSAVGELPSCEGLSGAPLVHEVRGTWFLAGLHSGDACQGPAPPAVFTALPAYEDWVSSLDWQVYFAEEP
EPEAEPGSCLANISQPTSC

>SGPr529_SEQID_87

MRAPHLHLSAASGARALAKLLPLMAQLWAAEAALLPQNDTRLDPAYGAPCARGSPWQVSLFNGLSFHCAGVLV
DQSWVLTAAHCGNKPLWARVGGDDHLLLLQGEQLRRTTRSVVHPKYHQGGPILPRTDEHDLMLLKLARPVVPGR
VRALQLPYRCAQPGDQCQVAGWGTTAARRVKYNKGLTCSITILSPKECEVFYPGVVTNNMICAGLDRGQDPCQSD
SGGPLVCDETLQGILSWGVPYPCGSAQHPAVYTIQICKYMSWINKVIRSN

>SGPr428_1_SEQID_88

NVQCGHRPAFPNSSWLPFHERLQVQNGECPWQVSIQMSRKHLCGGSILHWWVLTAAHCFRRTLDDMAVNVTVV
MGTRTFSNIHSERKQVKVIHKYKPPQLDSDLALLATPVQFSNFKMPVCLQEEERTWDWCWMAQWVTTNGYD
QYDDLNMHLEKLRVQISRKECAKRVNQLSRNMICAWNENGTNGQGPGEVGGPLVCQKKNKSTWYQLGIISWGVGC
GQKNMPGVYTELSNYLLWIERKTVLAGKPYKYEYEPDSVYALLSPWAILLYFVMLLLS

>SGPr425_SEQID_89

MENMLLWLIFFTPGWTLDGSEMEWDFMWHLRKVPRIVSERTFHLTSPAFAEADAKMMVNTVCGIECQKELPTPSLSEL
EDYLSYETVFENGTRTLTRVKVQDLVLEPTQNITTKGVSVRRKRQVYGTDSRFSILDKRFLTNFPFSTAVKLSGCSGIL
ISPQHVLTAACHVHDGKDYVKGSKLRVGLLKMNRKSGGKKRRGSKRSRREASGGDQREGTREHLPERAKGRRR
KKSGRGQRIAEGRPSFQWTRVKNTHIPKGWARGMGMDATLDYDYLKRAHKKKYMELGISPTIKMPPGGMHIFS

FIG. 2K

FIG. 2L

GFDNDRADQLVYRFCVSDESNDLLYQYCDAESGSTGSGVYLRDKDPDKKNWKRKIIAVYSGHQWVDVHGVQKDYN
VAVRITPLKYAQICLWIHGNDANCAYG

>SGPr548_SEQID_90

MGDPEGSAEWGKGIPVVRNLLTVDGISLCLEGSWWRQKGPASPGFHSLSRLQPNPGPSSTMWLLLTLSFLLA
STAAQDGDGKLEGDECAPHSPWQVALYERGRFNCGASLISPHWVLSAAHCQSRFMRVRLGEHNLKRDGPEQLR
TTSRVIPHPRYEARSHRNDIMLLRLVQPARLNPQVRPAVLPTRCPPHGEACVSGWGLVSHNEPGTAGSPRSQVSLP
DTLHCANISIISDTSCKSYPGRLTNTMVCAGAEGRGAESCEGDSGGPLVCGGILQGIVSWGDPDPCDNTTKPGVYTKV
CHYLEWIRETMKRN

>SGPr396_SEQID_91

MGPAGCAFTLLLLGISVCGQPVSRRVVGQDAAAGRWPQVSLHFDHNFICGGSLVSERLILTAAHCIQPTWTTFS
YTVWLGSITVGDSTRKRVKYVSKIVHPKYQDTTADVALLKSSQVFTSAILPICLPSTKQLAIPFCWVTGWGKVKE
SSDRDYHSALQEAEPIDRQACEQLYNPIGIFLPALEPVIKEDKICAGDTQNMKDSCKGDSGGPLSCHIDGVWIQTGV
VSWGLECGKSLPGVYTNVYYQKWINATISRANNLDFSDFLPVLLSALLRPSCAFGPNTIHRVGTVAEAVACIQGWE
ENAWRFSPRGR

>SGPr426_SEQID_92

MMYAPVEFSEAEFSRAEYQRKQQFWDVSRALFTLAIVAIGIAGVTHFVVEDDKSFYYLASFVTKNIKENYGISS
REFIERSHQIERMMSRIFRHSSVGGRFIKSHVIKLSPDEQGVLDILVIFRYPSTDSAEQIKKIEKALYQSLKTKQLSLTIN
KPSFRLTRCGIRMTSSNMPLPASSSTQRIVQGRENAMEGEWPWQASLQIGSGHQCGASLISNTWLLTAACHCFWKNNK
DPTQWIATFGATITPPAVKRNVRKIILHENYHRETNENDIALVQLSTGVEFSNIVQRVCLPDSSIKLPKTSVFVTGFGSI
VDDGPIQNTLRQARVETISTDVCNRKDVYDGLITPGMLCAGFMEGKIDACKGDSGGPLVYDNHDIWYIVGIVSWGQSC
ALPKKPGVYTRVTKYRDWIAASKTGM

>SGPr552_SEQID_93

RIAEGLDAEEGEWPWQASLPQNNVYRRGATWLSNSWLITAACHCFIRVHDPKEWNVILSNPQTQSNIKNVIQENYHYHYP
AHDNDIAVHLSSPVLVYTSNIQKACLPDNYIFLYNSEAVTAWGSFKPLRTTSNVLHGKLVKIIDNRTCNNGEADGRVI
TSGMLCAGFLEPRVDACQGDGSGGPLVGTDSKILAKGSLVLKAGVNERALPNKPSVYTQVTYY

FIG. 2M

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>SGPr405_SEQID_94
MVSKGGVAAEPEPHYCEDSERGNLTGPGSLPRGGIEVGMEFFGCSGEGCVKPHAEAAREGAGRGKRAVPGPK
RRQQSAEGPAAGWTLREQETRGDVLEDKNERADEEILRLAPKGRLPIDSKHLKPVISFPVRSQELGEGAGAGTLR
GKMAEFNWSMAFKGPAAGHEERLNSVSSRAKKIGIGWDVAAASLRGVDHFDLPPPLQVREELEACAFRVQVGQLRL
YEDDQRTKVVEIVRHQYNESLSAQGGADIALKLEAPVPLSELIHPVSLPSASLDVPSGKTCWVTGWGVIGRGELLP
WPLSLWEATVKVRSNVLNQTCRRRFPNSHTEFERLIKDDMLCAGDGNHGSWPGDNGGPLLCCRNCCTWVQVEVW
SWGKLCGLRGYPGMYTRVTSVSWIRQPCPSAQTPAVVRRFVLPNPDVEALTPSVMSGAPLPPAPDLQEAEVPI
MRTRACERMYHKGPTAHGQVTHIKAAMPACAGKGGSCQAALRTEDLTPTTPNTEVSPRADPRLSQPEDIWPEWAW
PVVVGTTMLLLFLAVSSLGSCSTGSPAPVPENDLVGIVGGHNTPGEVWVAVGADRRSLHFEGHRPVHLPDSSHQG
CVSVRGPAAECQDRRPPNYSVFFLGADIALKLATSSLEFTSDNCWNTGWMVGLLDMLPPYPYRPPQVKVLT
SNADCERQTYDAFPAGAGDRKFIQDDMICAGRTGRRTWKGDGGLVCKKKGTWLQAGVSWGFSYSDRPSIGVYTR
PETSWQGANHADAQRPAGRVPTMQRPDMGQGEWVCRPFTHVTCYPTAIPRPFTHVTCYLMVPSLTHVTCYP
TAVPRPFTHVTCYLMVPSLTHITCYMMAVPRPFTHITCYPMVPSLTHVTCYPTAIPRPFTHITCYTMAIPRPSTTP
PATRRPSPAPSTPATRWPSPGSPMSPATR

>SGPr485_1_SEQID_95
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FPWQVSIQVRSEPFCCGSILNKWWIL TAAHCLYSEELFPEELSVLGTNDLTSPSMEIKEVASILHKDFKRANMDNDIA
LLLLASPIKLDLKVPICLPTQPGPATWRECWWAGWGQTNAADKNSVKTDLMKAPMVIMDWEECSKMFPKLTKNMLC
AGYKNESYDACKGDSGGPLVCTPEPGEKWYQVGIISWGKSCGEKNTPGIYTSLVNYNLWIEKVTQLEGRPFNAEKRR
TSVKQKPMGSPVSGVPEPGSPRSWLLLCPLSHVLFRAILY

>SGPr534_SEQID_96
MASLWLLSCFSLVGAAFGCGVPAIHPVLSGLSRIVNGEDAVPGSWPWQVSLQDKTGFHFCGGLISEDWVVTAAHC
GVRTSDVVVAGEFDQGSDEENIQVLKIAKVFKNPKFSILTVNNDITLLKATPARFSQTVSAVCLPSADDDFPAGTLCAT
TGWGKTKYNANKTPDKLQQAALPLLSNAECKKSWGRRITDVMICAGASGVSSCMGDSGGPLVCQKDGAWTLVGIVS
WGSRTCSTTTPAVYARVTKLIPWVQKILAAAN

>SGPr390_SEQID_97
MEPTVADVHLVPRTTKEVPALDAACCRAASIGWATSLVLTGLVLLGGMNNSRHAALRAATLPKGVSVTPEASKTT
NPPEGRNSEHIRTSAARTNSGHTIFKNCNTQPFLLSTQGFHVDHTAELRGIRWTSSLRETSYHRTLTPTTLEALLHFLLR

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PLQTLSGLEELLQRGIRARLREHGISLAAYGTIVSAELTGRHKGPLAERDFKSGRCPGNSQSCGVTKVNPEC
DDQEDCSDGDEAHCEGLQPAWRMAGRIVGMEASPGFEFPWQASLRNKEHFCAAIINARWLVSAAHCFNEFQ
DPTKWVAYVGATYLSGSEASTVRAVQIVKHPLYNADTADFVAVLELTSPLPFGRIHQPVCLPAATHIFPPSKKCLIS
GWGYLKEDFRKHLPRPAMVKPEVLQKATVELLDQALCASLYGHSLTDRMVCAGYLDGKVDSCQGDGGPLVCEEPS
GRFFLAGIVSWGICAEARRPGVYARVTRLRDWILEATTKASMPAPTMAPAPASTAWPTSPESPVWSTPTKSMQ
ALSTVPLDWWTVPKLQECGARPAMEKPTRVVGFGAASGEVPWQVSLKEGSRHFCGATVWGDRWLLSAAHCFNHT
KVEQVRAHLGTASLLGLGGSPVKIGLRRLVHPLYNPGILDFDLAVLELASPLAFNKYIQPVCLPAIQKFPVGRKCMIS
GWGNTQEGNATKPELLQKASVGIIDQKTCSVLYNFSLTDRMICAGFLEGKVDSCQGDGGPLACEEAPGVFYLAGIVS
WGIGCAQVKKPGVYTRITRLKGWILEIMSSQPLPMSPPSSTRMLATTSPRTTAGLTPGATPSRPTPGAASRVGTGQPA
NSTLSAVSTTARGQTFPDAPAEATHTQLPDCGLAPAAALTRIVGSAAGRGEWPWQVSLWLRRRREHRCGAVLVAER
WLLSAAHCFDVYGDPKQWAAFLGTPFLSGAEGQLERVARIYKHPFYNLTYLDYDVALLELAGPVRRSRLVRPICLPEP
APRPDGTRCVITGWSVREGGSMARQLQKAAVRLLSQTCRRFYPVQISSRMLCAGFPQGGVDSCSGDAGGPLA
CREPSGRWWLTGVTWSVGYGCGRPHFPGVYTRVAAVRGWIGQHIQE

>SGPr521 SEQID 98

MARSLLLPLQILLLSLALETAGEEAAQGDKIIDGAPCARGSHPWQVALLSGNQLHCGGVLVNERWVLTAAHCKMNEYTV
HLGSDTLGDRRAQRIKASKSFRHPGYSTQTHVNDLMLVLKNSQARLSSMVKKVRLPSRCEPPGTTCTVSGWGTTTS
PDVTFPSDLMCVDVKLISPQDCTKVYKDLENSMLCAGIPDSKKNACNGDSGGPLVCRGTLQGLVSWGTFPCGQPN
DPGVYTQVCKFTKWINDTMKKHR

>SGPr530 1 SEQID 99

VSTVCGKPKVVGKIYGGRDAAAGQWPWQASLLYWGSHLCGAVLIDSCWLVS^{TT}THCFLNKSQAPKNYQVLLGNIQLY
 HQTQHTQKMSVHRIITHPDFEKLHPFGSDIAMLQLHLPMNFTSYIVPVCLPSRDMQLPSNVSCWITGWGMLTEDHKRV
 QLSPPFYLQEGKVGLIENTLNTLYGQRTAKARPKLCTRRCCVGGYFSTGKSICKGDSGGPLVCYLP^{SA}WVLVGLAS
 WGLDCRHPAYPSIFTRV^{TY}FINWIDEIMRLT^{PL}SDPALAPH

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>SGPr520 SEQID 100
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MLLAVLLLLPLPSSWFAHGHPLYTRLPPSALQVFTLLLGAETVLGRNLDYVCEGPCGERPPSTANVTRAHGRIVGSSA
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PKFDPRTFHNLDLVLQWTPVSPGGSARVCLPQEPQEPAGTACAIAGWGALFEDGPEAEAVREARVPLLSTDTCR
RALGPGLRPSTMLCAGYLAGVDSCQDSSGGPLTCSEPGPRPREVLFGVTSWGDGCGEPGKPGVYTRVAVFKDWL
QEQMSSAASSSREPSCRELLAWDPPQELQADAARLCAFYARLCPGSQGACARLAHQQCQLQRRRRCELRSLAHTLLGL

FIG. 2N

LRNAQELLGPRRGLRRLAPALPAPALRESPLHPARELRHLHSGSRAAGTRFPKRRPEPRGEANGCPCGLEPLRQKLA
ALQGAHAWILQVPSEHLAMNHFHEVLADLGSKTLTGLFRAWVRAGLGGRHVAFSGLVGLEPATLARSLPRLLVQALQA
FRVAALAEGEPEGPWMDVGGQGLERKGHHPLNPQVPPARQP

>SGPr455_SEQID_101

MSPDIALLYLKHVKFNAVQPICLPDSDDKVEPGILCLSSGWGKISKTSEYSNVLQEMELPIMDDRACNTVLKSMNLP
PLGRTMLCAGFPDWGMDACQDGGPLVCRGGGIWLAGITSWAGCAGGSPVRNNHVKASLGIFSKVSELMDF
ITQNLFTGLDRGQPLSKVGSRYITKALSSVQEVNGSQRDKIILKFTSLDMEKQVGCDDHYVSLRSSGVLFSKVCCKIL
PSPLLAETSEAMVPFVSDTEDSGSGFELTVAVQKSEAGSGCSLAILVEEGTNHSAKYPDLYPSNTRCHWFICAPEK
HIIKLTFFEDFAVKFSPNCIYDAVIYGDSEEHKLAKLCGMLTITSIFSSNMTVIYFKSDGKNRLQGFKARFTILPSES LN
KFEPKLPQNNPVSTVKAILHDVCGIPFSPQWLSRRRAGGEEACPHCWQVGLRFLGDYQCGGAINPVWILTAAH
CVQLKNNPLSWTIAGDHDRLNKESTEQVRRRAKHIVHEDFNTLSYDSDIALQLSSPLEYNSVVRPVCPLPHSAEPLFSS
EICAVTGWGSISAELSNVSSLDGGLASRLQIQIHVLEREVCEHTYSAHPGGITEKMICAGFAASGEKDFCQGDGSG
GPLVCRHENGPFVLYGIVSWGAGCVQWPWPGVFARVMIFLDWIQSKINGKLFNSVIKTTITSFFRVGLGTVSCCSEAELE
KPRGFFPTPRYLLDYGRLECSWVLRVSASSMAKFTIEYLSLLGSPVCQDSVLIYEERHSKRKTAGGLHGRRLYSMT
FMSPGPLVRVTFHALVRGAFGISYIVLVKLPKDSKITRLSQSSNREHLVPCEDVLLTKPEGIMQIPRNSHRTTMGCQW
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TSIFALQNTCYHALPHEVVLRIK

>SGPr507_2_SEQID_102

MKYVFYLGVLAGTFFADSSVQKEDPAPYL VYLKSHFNPVGVLIKPSWVLAHACYLPNLKVM LGNFKSRVRDGE
QTINPIQIVRYWNYSHSAPQDDMLIKAPAMLPKVQPLTLATTNVRPGTVCLLSGLDWSQENSGLWQLEPPGHLT
LHRGPAIPDWQRHNSHEQGRHPDLRQNL EAPVMSDRECQKTEQGKSHRNSLCVKFVKVFSRIFGEVAVATVICKDKL
QGIEVGHFMGDVGIYTNVYKYSWIENTAKDK

>SGPr559_SEQID_103

MGENDPPAVEAPFSRSLFGLDDLKISPVAPDADAVAAQILSLLPLKFFPIVIGIILALAILGIHFD CSGKYRCRSSF
KCIELIARCDGVSDCKDGEDEYRCVRVGGQNAVQLVFTAA SWKTMCSDDWKGHYANVACAQLGFPSYVSSDNL RVS
SLEGQFREEFVSIDHLLPDDKV TALHHSVYVREGCASGHVVTLCQACGHRRGYSSRIVGNGMSLLSQWPWQASLQ
FQGYHLCGGSVITPLWITA AHCVDLYLPKSWTIQVGLVSLLDNPAPSHLVEKIVYHSKYKPKRLGNDIALMKLAGPLT
FNEMIQPVCLPNSEENFPD GKVVCWTSGWGATEDGAGDASPVLNHA AVPLISNKNICNHRDVYGGIISPSMLCAGYLTG
GVDSCQGDGSGGPLVCQERRLWKL VGATSF GIGCAEVNKP GYVTRVTSFLDWIHEQMERDLKT

>SGPr524_1_SEQID_108
MDKENSVDV_SAAPADLKISNISVQVSAQKKLPVRRPPLPGRRLPLPGRPPQRPPIGKAKPKKQSKKVPFWNVQNKIIL
FTVFLFILAVIAWTLLWL YISKTESKDAFYAGMFRITNIEFLPEYRQKESREFLSVRTVQQVINL VYTTSAFSKFYEQS
VVADVSSNNKGGLLVHFWIVFVMPRAKGHIFCEDCVAAILKDSIQTSIINRTSVGSLQGLAVDMDSVNLNGDCWSFLKK
KKRKENGAVSTDKGCQYFAEHL SLHYPLEISAASGRMLMCHFKLVAIVGYLRLSIKSIQIEADNCVTDLSLTIDSLPIR
SSILYRICEPTRTLM SFVSTNNMLVTFKSPHRRLSGIRAYFEVPEQKCENTVLVKDITGFEKGISSPYPSYPPKCK
CTWKFTSLSTLGIALKFYNSITKSMKGCEHGWWEINEHMYCGSYM DHTQIFRVPSPLVHIQLQCSSRLSDKPLLA
EYGSYNISQPCPVGSFRCSGGLCVPAQQRCDGVNDCFDESDELFCVSPQPACNTSSFRQHGPLICDGFRCDCENGRD
EQNCTQSI PCNNRTFKCGNDICFRKQNAKCDGTVDPCDGSDEEGCTCSRSSSALHRIIGTDTLEGGWPWQVSLHF
VGSAYCGASVISREWLLSAAHCFHGNRLSDPTPTAHLGMVYVQGNAKFVSPVRRIVHEYYNSQTFDYDIALQLLSIA
WPETLKQLIQIPICPTGQRVRSGEKCWVTGWGRRHEADNKGSLVLOQAEVELIDQTL CVSTYGIITSRMLCAGIMSG
KRDACKGDSGGPLSCRKSDGKWILTGIVSWGHCGRPNFPGVYTRVSNFVPWIHKYVPSLL

>SGPr422_SEQID_109
MTLNKIKDLFAGKGQWDLAPEAEMLPWMIAVLVLSLTVAVTIGLLVHFLVFDQKKEYYHGSFKILDPPQINNFFGQSN
TYQLKDLRETTENLVYSLKMYLSFVCHSPEEDGVKVDVIMVFQFPSTEQRAVREKKIQSILNQKIRNLRALPINASSVQV
NVAMVKNGNVPGSGAGEAPGLGAGPAWSPMSSSTGELTVQASCGKRVPPLNVNRIASGVIAPKAAWPWQASLQY
DNIHQCGATLISNTWLVTAAHCFQKYKNPHQWTVSFGTKINPPLMKRNVRFIIEKYRSAAREYDIAVVQVSSRVTF
DDIRQICLPEASASFQPNLTVHITGFALYGGESQNDLREARVKIISDDVCKQPVYGNDIKPGMFCAGYMEGIYDAC
RGDSGGPLVTRDLKDTWYLGIVSWGDNCGQKDKPGVYTQVTYRNNWIAASKTGI

>SGPr538_SEQID_110
MSLMLDDQPPMEAQYAEEGPGPIFRAEPGDQDQHPISQAVCWRSRRRCVAVLGALLAGAGVGSWLLVYLCPA
ASQPISGTLQDEEITLSCSEASAEAEALLPALPKTVSFRINSEDFLEAQVRDQPRWLLVCHEGWSPALGLQICWSLGH
RLTHHKGVNLTDIKLNSSQEFQALSPRLGGFLEEAWQPRNNCTSGQVSLRCSECGARPLASRIVGGQSVAPGRWP
WQASVALGFRHTCGSVLAPRWVWVTAACHMHSFRLARLSSWRVHAGLVSHSAVRPHQGALVERIIPPLYSAQNHD
YDVALLRLQTALNFSDTVGAVCLPAKEQHFPKGSRCWVSWGHTHPSTYSSDMLQD TVVPLFSTQLCNSSCVYSG
ALTPRMLCAGYLDGRADACQDGGGLVCPDGDWRLVGVVSWGACAEPNHPGVYAKVAEFLDWIHDTAQDSLL

FIG. 2Q

>SGPr527_1_SEQID_111
 MARHLLPLVMLVISPIPGAFQDSALSPTQEEPEDLDCGRPEPSARIVGGSNAQPGTWPVQVSLHHGGHICGGSLIA
 PSWVLSAAHCFMTNGTLEPAAEWSVLLGVHSQDGPLDGAHTRAVAAIVPANYSQVELGADLALLRLASPASLGPV
 WPVCLPRASHRFVHGACWATGWGDVQEADPLPWVQLVEVLRLLGEATCQCLYSQPGFNLTLQILPGLCAGY
 PEGRRDTCQGDGGPLVCEEGRWFQAGITSFGCGRRNRPGVFTAVATYEAWIREQVMGSEPGPAFPTQPQKT
 QSDQPREENCTIALPEGKAPRGAWPWEAQVMPGSRPCHGALVSESWLAPASCFLDPNSSDSPPRDLDAW
 RVLLPSRPAERVARLVQHENASWDNASDLALLQLRTPVNLASAARPVCLPHEHYFLPGSRCRLARWGRGEPALG
 PGALLEAELLGGWWCHCLYGRQGAAPVLPGDPPHALCPAYQKEEEVGSCWTHGPWISHVTRGAYLEDQLAWDWG
 PDGEETETQTCPPHTEHGACGLRLAAPVGLWPWLAEVHVAGDRVCTGILLAPGWLAATHCVLRPGSTTVPYIEV
 YLGRAGASSLPQGHQVSRVLISIRLPQHLGRPLALLESSRVEPSALPICLHPAGIPPGASCWVLGWKEPQDRVP
 VAAAVSILTQRICDCLYQGILPPGTLCVLYAEGQENRCEMTSAPLLCQMTEGSWILVGMVQQSRELF A AIGPEEAWI
 SQTVGEANFLPPSGSPHWPTGGSNLCPPELAKASGSPHAVYFLLLLTLLIQS

>SGPr542_SEQID_112
 AMGLGLRGWGRPLLTATALMLPVKPPAGSWGAGIIGGHEVTPHSRPMASVRFGGQHHC GGFLLRARWVVSAAH
 CFSHRDLRTGLVLAGHVLSTAETQQVFGIDALTTHPDYHPMTHANDICLLQLNGSAVLGPAVGLLRPLPGRRARPT
 AGTRCRVAGWGFVSDFEELPPGLMEAKVRVLDPDVCNSSWKGHLTLMCLTRSGDSHRRGFCSADSGGGLVCRNR
 AHGLVSFSGLWCGDPKTPDVYTQVSAFVAWIWDVRRSSPQPGPLPGTTRPPGEAA

>SGPr551_SEQID_113
 MPVAEAPQVAGGQGGDGEAEPEGMFKACEDSKRKARGYLRLVPLFVLLALLVASAGVLLWYFLGYKAEVMVS
 QVYSGSLRVLNRHFSQDLTRRESSAFRSETAKAQKMLKELITSTRLGTYNSSSVYSFGEGLTCFFWFILQIPEHRL
 MLSPEWQALLVEELLSTVNSSAAVPYRAEYEVDPGLVILEASVKDIAALNSTLGCYRYSYVGGQVLRLLKGPDLHAS
 SCLWHLQGPKDLMLKLRLLEWTLAECDRLAMYDVAGPLEKRLITSVYGCSRQEPWVEVLASGAIMAVWWKGLHSYY
 DPFVLSVQPVVFQACEVNLTDNRLDSQGLSTPYFPSYSPQTHCSWHLTPSLDYGLALWFDAYALRRQKYDLPC
 TQGQWTIQNRRLCGLRIQPYAERIPVATAGITINFTSQISLTGPGVRVHYGLYNQSDPCPGEFCLSVNGLCVPACDG
 VKDCPNGLDERNCVCRATFQCKEDSTCISLPKVCQDQDCLNGSDEEQCEGVPCGTFTFQCEDRSCVKKPNPQC
 DGRPD CRDGSDEEHCDGLQGPSSRIVGGAVSSEGEWPWQASLQVRGRHICGGALIA DRWVITA AHCFQEDSMAS
 TVLWTVFLGKVVQNSRWPGEV SFKVSRLLLHPYHEEDSHDYD VALLQLDHPVVRSAAVRPVCLPARSHFFEPGLHC
 WITGWALREGGPISNALQKVDVQLIPQDLCSEAYRYQVTPRMLCAGYRKKGKDACQGDGGGLVCKALSGRWFLA
 GLVSWGLGCGRPNYFGVYTRITGVISWIQQVVT

FIG. 2R

>SGPr451_SEQID_114
DLPPSCSPASKMRLGLLSVALLFVGSSHLYS DHYSPSGRHLRGLPSPEPAASSQQA EAVRKRLRRRREGGAHAKDCG
TAPLKDV LQGSRIIGTEAQA GAWPVVSLQIKYGRVLVHVCGGTLVRERWVLTAAHCTKDTSDPLMWTAVIGTNNIH
GRYPHTKKIKIAIIHPNFILESYNDIALFHLKAVRYNDYIQICLPFDVFQILDGNTKCFISGWGRTKEEGNATNILQD
AEVHYISREMCNSERSYGGIIPNTSFCAGDEDAFDTCRGDSGGPLMCYLPEYKRFFVMGITSYGHGCGRRGFPGVY
IGPSFYQKWLT EHHFFHASTQGILTINILRGQILIALCFVILLATT

>SGPr452_1_SEQID_115
SPPQPRTPDCRLQASLEALATLAPQPSDWL CFADLGWFEADGAAHSMGLGSSLKWAWAKPSGMPVPENDLVGIVG
GHNAPPGKWQVQVSLRVSYHWA SWAHICGSLIHPQWVLTAAHCIFWKDTPDSIYRIHAGDVLYYGGRGLLNVSR I
IVHPNYVTAGLGADVALLQLPGSPLSPESLP PPYRLQQASVQVLENAVCEQPYRNASGHTGDRQLILDMLCAGSEG
RDSCYGD SGGPLVCRLRG SWRLVG VSWGYGCTLRDFPGVYTHVQIYVLWILQQVGELP

>SGPr504_SEQID_116
IIGGHEVTPHSRPMASVRFGGQHHC GGFLLRARWVWSAAQCFSH

>SGPr469_SEQID_117
GDSGGPLVCELNGTWVQVGIVSWGIGCGRKGYPGVYTEVSFYKKWI

>SGPr400_SEQID_118
MAGEQVTANVSRYPGQKTM SFPEKTFLLSYRASLLAVVTHRSNNSRGRAFESQVLPDLTAGDAADPPIPPLPGGAAL
LKSGPFRIWQGVKTKGEEGDRDTGTAGYAFTLLLLGISGEPEWVCGRPTVSSGIASGLGASVGQWPWQVSI RQGL
IHVCSDTLISEEWVLTVAICFPLSPHPDFQANTSSAIAVVELPSPVSPVLLICLPSSEVYLKKN TTSCWWTGWGYTGI
FQYIKRSYTLKELKVPLIDLQTCGDHYQNEILLHGVELISEAMICSKLPVGQMDQCTVRIHPSGTFHRPCLPQ